FINAL REPORT

EVALUATION FRAMEWORK FOR THE CANADA/NEW BRUNSWICK INDUSTRIAL INNOVATION & TECHNOLOGY DEVELOPMENT SUB-AGREEMENT

Prepared for:

Evaluation Steering Committee

Prepared by:

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September 14, 1987

Mr. Bill Paterson
Director, Science and Technology
New Brunswick Department of
Commerce and Technology
P. O. Box 6000
Fredericton, N.B.
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Dear Mr. Paterson,

I am enclosing ten copies of our report on the evaluation framework for the Canada/New Brunswick Sub-Agreement on Industrial Innovation and Technology Development.

I hope that this framework will be useful to the parties to the Sub-Agreement in reporting on and monitoring its progress and laying the foundation for the final evaluation.

Very truly yours,

Bryan Ferguson,
Project Manager

/kp
Enc.

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EXECUTIVE SUMMARY

1. Structure of IITD

The Canada/New Brunswick Subsidiary Agreement on Industrial Innovation and Technology Development (IITD) was signed on May 28, 1986.

The goal of IITD is to accelerate the development and application of technology to increase and enhance employment opportunities. Specific objectives include the following:

- To improve the competitiveness of existing industry;
- To diversify existing industry through attraction of new ventures to the province, assisting existing manufacturers to innovate and diversify and assisting local entrepreneurs to establish new ventures;
- To increase the in-province capability in technological development innovation and diffusion in areas of strategic importance to New Brunswick;
- To encourage existing industry to participate in research and development and implement new technology;
- To increase awareness of technology by provincial industry.

IITD contains four programs and sixteen related sub-programs and projects. The program structure is shown in Exhibit 1.

The total funding committed to IITD over its five-year term is $28.57 Million, of which $20 Million represents the federal share, and $8.57 Million the provincial share.

EXHIBIT 1: PROGRAMS, SUB PROGRAMS AND PROJECTS OF IITD

PROGRAM 1: Strategic Technology Support

SUB-PROGRAM:
- 1.1 Opportunity Identification & Priorization
- 1.2 Public Sector Sponsored Applied R & D
- 1.3 Applied Technology Infrastructure

PROGRAM 2: Innovation Climate

SUB-PROGRAM:
- 2.1 Technology Venture Initiative

PROJECT:
- 2.1.1 Technology Venture Initiative
- 2.1.2 New Venture Incubation Centre

- 2.2 Technology Information Transfer

PROGRAM 3: Direct Support to the Private Sector

SUB-PROGRAM:
- 3.1 Complementary Financial Assistance

PROJECT:
- 3.1.1 Project Development Capital
- 3.1.2 Demonstration Projects
- 3.1.3 First User Risk Reduction
- 3.1.4 R & D Investment

- 3.2 Technical Audits, Entrepreneurial Visits and Studies
- 3.3 Contract Staff

PROGRAM 4: Planning, Coordination and Implementation

SUB-PROGRAM:
- 4.1 Administration
- 4.2 Planning and Feasibility Studies

Being a new sub-agreement, designed uniquely for the stated objectives, the program structure in relation to intended outcomes of:

. improved competitiveness;
. diversifying the industrial base; and
. increasing in-province research and development capability

is logical and internally consistent.

2. Program Monitoring

Quarterly Reports

The Management Committee have decided that there should be regular monitoring of IITD in the form of quarterly reports by program, sub-program and project. No formal system for reporting to Management Committee has been adopted up to this point.

Recommendation 1 (Page 34)

We recommend the introduction of a reporting system in the form of concise, action-oriented reports to Management Committee. Reports have been designed for each program, sub-program and project. The purpose of each report is the same:

- Statistical recap & summary of the applications.
- Comments on variances from work plan.
- Description of corrective actions proposed.
- Recommendations for Management Committee.
- Budget allocations changes required.

Recommendation 2 (Page 33)

We recommend that two types of reports be implemented:

- A sign-off report for each activity to obtain the details of how funds were actually spent and update the data base accordingly. This report will also give a short statement of problems and issues and suggestions for future activities of a similar nature.

- An annual update for each activity to identify changes in the operations of assisted firms or organizations relative to expected objectives.

These reports will provide information essential for the preparation of quarterly reports to Management Committee as well as useful baseline data for evaluation of IITD.

Other Management Reports

Recommendation 3 (Page 37)

We recommend developing five regular monthly or quarterly reports using the automated IITD data base. These reports are primarily intended for staff of DRIE and Commerce and Technology who administer the programs or prepare reports for the Management or Coordinating Committees. These five reports include:

- Monthly count of applications received, approved, rejected, etc.;

- Monthly listing of pending applications and their status in the system;

- Quarterly cash flow projections;
- Quarterly report on activity by sector;
- Monthly report on application processing time.

These reports are readily retrieved from the computer base.

Enhancements to the Data Base

Recommendation 4 (Page 37)

In order to produce the reports required for Management and monitoring of IITD, we recommend that several enhancements be made to the current data base:

- Coding of the SIC number on the applicant file to enable the production of analyses by industry and sector;
- Using estimates of cash flow requirements for applications pending in order to produce a portrait of the likely cost implications of proposals "in the mill".

Recommendation 5 (Page 32)

The Research and Development performers data base is an important information resource for evaluation and monitoring. We recommend that it be updated at least biannually.

TVI Data Base

Special systems need to be developed for monitoring Program 2. Neither the TVI, the New Venture Incubation Centre, or the

Technology Information Transfer sub-program have been operationalized yet. It will be important to establish as much of these sub-programs and the current IITD data base.

Recommendation 6 (Page 39)

We recommend that TVI use a modified form of the IITD data base, capturing as much common information as possible, with access by the program coordinator, and using an application numbering system which enables linkages.

3. Evaluation

We have identified nine evaluation issues which, at this stage in IITD, appear to capture the essential concerns. These issues may change over the next four years, but they can be used as the foundation for developing the evaluation strategy.

Issue 1

Relevance: Have the basic conditions supporting the establishment of IITD changed to the extent that the programs and/or sub-programs are no longer relevant or appropriate?

Issue 2

Needs Fulfillment: Did the initiatives fulfill real needs?

Issue 3

Causal Linkages: Were activities and programs linked to the intended impacts?

Issue 4

Technological Development Objective: Have the initiatives contributed to the development and implementation of technology in New Brunswick?

Issue 5

ERDA Objectives: What was the overall impact of IITD on economic development in terms of job creation/protection, establishment of new firms, improved company profitability, return on investment?

Issue 6

Awareness of Technology: Did IITD result in firms being generally more aware of the importance of and potential applications for technology in their businesses?

Issue 7

Program Delivery: Were the programs delivered as effectively and efficiently as possible?

Issue 8

Program Design: Were there better ways of meeting the objectives and intended effects?

Issue 9

Continuation of Pilot Projects: Should the pilot projects be considered for on-going support?

These nine issues lead to a further 13 related questions.

Recommendation 7 (Page 40)

The indicators and data sources relating to these 22 issues and questions form the evaluation framework which we recommend be used as the basis for data collection during the remaining time of IITD.

Options for the final evaluation are based on the extent and breadth of data collection and analysis. The key features of the three options are summarized below:

EXHIBIT 2: SUMMARY OF OPTIONS

	Expected Results	Level of Accuracy & Confidence	Person Days	Cost ($000)
OPTION 1	. good understanding of major issues . qualitative feedback on programs . helpful for planning new Agreement	. qualitative, based on opinions . no primary source data	25	12-15
OPTION 2	. quantitative measures of achievement for major users . concentration on strategic support	. more quantitative, particularly for Program 1	75	40-45
OPTION 3	. good understanding of major issues across all sub-programs . useful third-party feedback for program design or changes . good understanding of program awareness	. quantitative measures for all programs . representative sample across all sub-programs . first hand opinion	100	65-75

Recommendation 8 (Page 55)

We recommend that the third option be considered as the most likely approach and that the data collection system be developed to support the requirements of an extensive final evaluation.

We base this recommendation on our sense that:

- There is intense national interest in this vehicle for promoting technology development;

- The range of issues is very broad and there is not much consensus now on which are most important;

- Because the initiative is new, careful consideration of its effects are required to decide whether or not to continue to fund individual components.

4. Implementation

Implementation will involve the following specific tasks:

- Obtain Management Committee approval of the reporting system and structure.

- Develop data base routines to pull off required statistical reports.

- Establish a procedure for recipients of assistance to complete and send in an activity sign-off form when they apply for their final payment.

- Prepare an instruction sheet for filling in the form.

- Update the applicant file on the data base using this data.

- Maintain a list of activities which will extend beyond the fiscal year. In March advise the project officer to complete interim reports on all such activities.

- Maintain a list of all activities by project officer and corporate year end. Set up a calendar of reporting deadlines for annual updates, four months after year end.

- Design the output screens and protocols for producing the reports.

- Circulate these reports to members of the Coordinating and Management Committees and anyone designated by them.

- Have project officers insert SIC numbers on applications.

- Insert codes on R & D data base indicating use of IITD programs, application numbers.

- Allow for cross-referencing of the R & D performers data base to the IITD data base.

- Modify IITD data base to suit TVI needs.

- Train staff of TVI on use of the data base.

- Compile necessary baseline data.

- Maintain a watching brief on evaluations in other provinces and jurisdictions.

- Obtain regular statistical updates from Statistics Canada.

- File all activity sign off and annual update reports with other application materials for ease of file review.

- Maintain evaluation files containing all annual work plans and reports (from TVI as well as departmental

reports), quarterly reports and minuted comments on reports.

Recommendation 9 (Page 68)

We recommend that a half-time project officer and half-time clerical person be engaged to support the evaluation data collection activity. Possibly, these individuals could be shared with the Industrial Sub-Agreement to conduct similar activities.

5. Resource Implications

Implementing the evaluation and monitoring system will involve a total of approximately $184,000 in costs over the remaining life of IITD, assuming the system will be in place for the last quarter of 1987/88.

These costs include:

Project Officer (half-time)	$ 81,000
Clerical support	$ 26,000
Translation and printing of forms, instructions, etc.	$ 2,000
Evaluation (if contracted out)	$ 75,000
TOTAL	$184,000

1.0 INTRODUCTION

1.1 Background and Purpose

The purpose of this report is to provide an evaluation framework for the Canada/New Brunswick Subsidiary Agreement on Industrial Innovation and Technology Development (IITD).

IITD was signed on May 28, 1986. One of the requirements of IITD is that an evaluation framework be developed:

> "to document the objectives, activities and intended impacts/effects of the Agreement, to identify the likely evaluation issues and data collection requirements, to identify the need for periodic progress reporting on projects and to establish an evaluation plan".

Although evaluation of IITD is several years away, it is important to anticipate the issues which will form the focus of the evaluation. This enables program staff to develop the data base necessary to provide baseline information and the ability to generate samples for special surveys or case studies.

Effective administration of IITD also requires the development of a monitoring system to assess progress relative to program objectives and the program, sub-program and project budgets.

1.2 Methodology

The DPA Group Inc. was engaged to conduct the study on behalf of the Management Committee of IITD.

The methodology used in conducting the study was as highlighted below:

- Interviews with members of the Management and Coordinating Committees;

- Interviews with program staff;

- Flow charting and documenting the existing data base and reporting system;

- Review of evaluation issues with the Management Committee.

- Preparation of the evaluation framework according to the Office of the Controller General (OCG) guidelines.

- Design of forms for capturing activity information and quarterly reporting to Management Committee.

The study was conducted under the direction of the Evaluation Steering Committee. A list of persons interviewed during the study is provided in Appendix A.

1.3 Definitions

The following definitions of terms will be used throughout this report. These definitions were extracted from "General Administrative Procedures" dated 86/11/20.

- **Program** - A principal component of IITD containing a class of projects as outlined in Schedule B of IITD;

- **Sub-program** - A subdivision of a program which is a principal component of IITD;

- **Project** - A specific activity forming a self-contained unit within a program and sub-program;

- **Activity** - A self-contained unit within a project.

1.4 Organization of the Report

The report follows a more or less chronological sequence of activities leading from the creation of IITD to the final evaluation.

Chapter 2, **IITD Profile**, describes IITD and contains information about the programs and sub-programs, the objectives, resources and modes of delivery. The logic model is also included.

Chapter 3, **Data Sources and Program Monitoring**, describes the data and data bases available. Several new data collection instruments are presented in this chapter, as are quarterly reports to Management Committee and other management reports needed for monitoring the activities of IITD.

Chapter 4, **Evaluation Issues and Probable Strategy**, presents a list and discussion of the nine major evaluation issues which will form the basis of the final evaluation. Three different options for the final evaluation are discussed and compared. A strategy for data collection based on the most likely evaluation approach is proposed.

Chapter 5, **Evaluation Data Sources and Indicators**, describes the one-time or special data collection activities which will be needed to conduct the final evaluation. A detailed summary of indicators and the data sources needed for calculating or

compiling each indicator concludes the presentation of the chapter.

Eight appendices contain information supporting the text of the report and provide samples of proposed data collection instruments and reports.

2.0 IITD PROFILE

This section of the report presents a profile of IITD.

2.1 Mandate

The overall mandate for the provincial and federal governments to establish economic development sub-agreements is the ERDA Agreement of April 13, 1984.

2.1.1 Provincial

IITD was authorized by New Brunswick Order in Council 86-375 on May 15, 1986.

2.1.2 Federal

IITD was authorized by Order in Council PC 1986-1245 on May 28, 1986.

2.2 Objective

The overall objective of IITD is to accelerate the development and application of technology to increase and enhance employment opportunities in New Brunswick.

Specifically, IITD will help identify and encourage initiatives to:

- Improve the competitiveness of existing industry;
- Diversify existing industry through the attraction of new ventures to the province, assistance to existing manufacturers to innovate and diversify, and assistance to local entrepreneurs in establishing ventures;

- Increase the in-province capability in technological development, innovation and diffusion in areas of strategic importance to New Brunswick thus creating employment in the research and development industry;

- Encourage existing industry to participate in research and development and implement new technology;

- Increase awareness of technology by industries in the province.

2.3 Description

IITD contains four programs and sixteen related sub-programs and projects.

Exhibit 1 provides a summary of the program structure.

2.4 PROGRAM 1 - STRATEGIC TECHNOLOGY SUPPORT

The purpose of this program is to support and strengthen strategic technology resources and capability and to enhance technology transfer in the province as a means of stimulating economic growth.

2.4.1 Sub-Program 1.1: Opportunity Identification and Priorization

This sub-program is designed to assist in identifying and priorizing key technology strengths and opportunities and in determining the most appropriate means and levels of public sector support. The sub-program offers funding for establishing sectoral Task Groups in specific areas of strategic significance

EXHIBIT 1: PROGRAMS, SUB PROGRAMS AND PROJECTS OF IITD

PROGRAM 1: Strategic Technology Support

SUB-PROGRAM:
- 1.1 Opportunity Identification & Priorization
- 1.2 Public Sector Sponsored Applied R & D
- 1.3 Applied Technology Infrastructure

PROGRAM 2: Innovation Climate

SUB-PROGRAM:
- 2.1 Technology Venture Initiative

PROJECT:
- 2.1.1 Technology Venture Initiative
- 2.1.2 New Venture Incubation Centre

- 2.2 Technology Information Transfer

PROGRAM 3: Direct Support to the Private Sector

SUB-PROGRAM:
- 3.1 Complementary Financial Assistance

PROJECT:
- 3.1.1 Project Development Capital
- 3.1.2 Demonstration Projects
- 3.1.3 First User Risk Reduction
- 3.1.4 R & D Investment

- 3.2 Technical Audits, Entrepreneurial Visits and Studies
- 3.3 Contract Staff

PROGRAM 4: Planning, Coordination and Implementation

SUB-PROGRAM:
- 4.1 Administration
- 4.2 Planning and Feasibility Studies

to New Brunswick as determined by the Management Committee. The reports of these Task Groups will be used to establish priorities for funding under the other sub-programs in Program 1.

2.4.2 Sub-Program 1.2: Public Sector Sponsored Research and Development

This sub-program is designed to fund research and development in applied science and technology which build on the province's technological strengths. It is aimed at developing public domain information. All projects funded will become public knowledge to assist New Brunswick industry generally.

2.4.3 Sub-Program 1.3: Applied Technology Infrastructure

This sub-program is designed to build in-province capacity to undertake applied research and development and to facilitate technology transfer through the provision of funding to applied technology organizations (universities, research centres or institutes) and private sector research and development performers. Funding applies to acquisition of strategic staff, equipment or space to permit the performance of applied research and development for approved projects in strategically important fields. Activities are also intended to enhance the ability of these organizations to provide information and facilitate technology transfer in these fields, including management science and technology.

2.5 PROGRAM 2 - INNOVATION CLIMATE

The purpose of this program is to support the creation of a climate which encourages entrepreneurship and innovation and

stimulates technology development and application within New Brunswick.

2.5.1 Sub-Program 2.1: Technology Venture Initiative

This sub-program is designed to improve the climate for innovation within New Brunswick by providing a packaged service to help business firms establish, launch new ideas, and better access a range of seed and venture capital sources. Two projects will be undertaken, the Technology Venture Initiative and the New Venture Incubation Centre (see below).

Project 2.1.1 Technology Venture Initiative

This project involves establishing a team of individuals with the skills required to provide assistance to new technology-oriented ventures. The team will work with new entrepreneurs or established entrepreneurs with new product ideas to:

- Evaluate technological innovations, products and proposals;
- Provide advice and assistance in the development of business plans for innovators, entrepreneurs and companies;
- Establish networks with investors and financial entities;
- Hold seminars and workshops with new entrepreneurs to critique proposals.

The group will work as an independent group, external to government, but reporting to the Deputy Minister of Commerce and Technology.

The Terms of Reference for this project have been developed and funding has been approved. Interviews for staff members are being conducted.

Project 2.1.2 Technology Venture Incubation Centre

This project involves the establishment of a pilot Technology Venture Incubation Facility. The facility is intended to assist start-ups of new advanced technology-based companies. The goals of the facility are as enumerated below:

- To stimulate the creation of technology based start-up firms by providing low cost, high quality space for those companies that will benefit from ready access to technical, business and management services.
- To evaluate the concept in terms of its success in stimulating and supporting the birth and growth of technology-based companies in New Brunswick.
- To increase provincial awareness of the importance of incubating technology companies in New Brunswick.
- To strengthen the communication linkages between the technology, entrepreneurial and investment communities.

A request for proposals was sent to universities, industrial commissions and the Research and Productivity Council in November 1986. Two proposals were received and are being evaluated.

The intention is to evaluate the pilot project before the termination of IITD with a view to deciding on whether to continue and/or expand the concept.

2.5.2 Sub-Program 2.2: Technology Information Transfer

This sub-program is intended to improve technology monitoring, forecasting and networking within the province so that all parties have better access to current scientific and technological information. At this point, work is continuing on defining and developing the objectives and activities of this program.

2.6 PROGRAM 3 - DIRECT SUPPORT TO PRIVATE SECTOR

This program is designed to provide financial assistance directly to firms, individuals or industry associations which are technology-based or facing issues which are technological in nature. This program includes three sub-programs: complementary financial support; technical audits, entrepreneurial visits and studies; and contract staff.

2.6.1 Sub-Program 3.1: Complementary Financial Assistance

This sub-program is designed to provide special assistance to the private sector to assist in research and development of new products, processes or services involving advanced technology includes any pre-commercial production steps in the investment and development process and lessening hurdles to full commercialization.

The objective is to increase:

- the level of applied research and development;
- the number of new inventions which will become commercially exploited; and
- the number of technology-based industries in New Brunswick.

There are four projects.

Project 3.1.1 Development Capital

Development Capital includes re-payable, interest free contributions to newly-formed and established firms and entrepreneurs at the early stages of the innovation process to alleviate shortage of funds necessary to launch or continue work on eligible research and development activities.

Project 3.1.2 Demonstration Projects

This project includes non-repayable contributions to firms and entrepreneurs to assist in the demonstration of a new or improved product or process once technical feasibility has been determined and a prototype developed. This includes support for the operation of pilot or demonstration projects for the purpose of attracting investors, producers and/or users.

Project 3.1.3 First User Risk Reduction

First User Risk Reduction includes non-repayable contributions to New Brunswick producers or innovators for the introduction of a new, untested product or process produced or developed in the province and being presented to a first user who perceives a significant risk in its adoption.

Project 3.1.4 Research & Development Investment

This project includes complementary non-repayable contributions to firms and entrepreneurs to cover costs otherwise ineligible under other programs for applied research and development, prototype development, start-ups, expansion or modernization involving new or improved products, processes or services in the field of advanced technology.

2.6.2 Sub-Program 3.2: Technical Audits, Entrepreneurial Visits and Studies

This sub-program is designed to assist private firms, entrepreneurs or industry associations in identifying and assessing appropriate or best-practice technologies for installation in their operations.

2.6.3 Sub-Program 3.3: Contract Staff

This sub-program provides for the hiring of contract staff, including related direct expenses, as determined by the Management Committee for assisting in the delivery of activities under Program 3.

2.7 PROGRAM 4 - PLANNING, COORDINATION AND IMPLEMENTATION

This program is intended for use by the parties involved with IITD to provide funding for the following administrative activities:

- public information,
- evaluation,

- audit and other administrative costs associated with IITD;
- public sector planning and feasibility studies in support of initiatives under IITD including those relating to the socio-economic impact of technical change.

2.8 Eligibility and Level of Assistance

The eligibility criteria, eligible expenditures and the level of assistance available for programs and projects accessible by private and public agencies and firms are given in Appendix B.

2.9 Program Delivery

2.9.1 Federal and Provincial Responsibilities

All activities must be approved by Management Committee.

The Province is responsible for the overall delivery of IITD, following Management Committee approval. All activity evaluations are undertaken by staff of the provincial Department of Commerce and Technology except for program 2. Program 2 evaluations are undertaken jointly by Federal And Provincial Staff. Payments are made by the Province to successful applicants.

The TVI project will be composed of staff on contract to the Province. The project staff will work at arm's length from the Department of Commerce and Technology but will report to the Deputy Minister of that Department.

The federal role is to jointly approve all applications and to participate with the Province in the development and evaluation

of some activities, as well as overall monitoring and administration of IITD.

Implementation of Program 1.1, Opportunity Identification and Priorization was assigned to a special **Implementation Sub-Committee.** This committee had both federal and provincial members and was responsible for developing the terms of reference and identifying the key industry groups and potential task group members and chairpersons. Actual staff support to task groups will be provincial staff.

2.9.2 Application Evaluation Process

Applications for activity funding are received from public and private sector research performers and entrepreneurs under Programs 1 and 3 respectively. The application evaluation process consists of several steps that require review and decision making. A flow chart of the application process was developed by the Department Commerce and Technology and is shown in Appendix C.

The first step for the applicant is to complete an "Application for Assistance Under the Canada/New Brunswick Industrial Innovation and Technology Development Subsidiary Agreement". A copy of the application form is shown in Appendix D. The applicant submits the completed application to the Department of Commerce and Technology.

The application is forwarded to a Program Coordinator who acknowledges its receipt and assigns a number to the application. The Program Coordinator then forwards the application for analysis as follows:

- Applications for Program 1 (public sector) are forwarded to the Director, Science and Technology;

. Applications for Program 3 (private sector) are forwarded to the Director of Industry Services.

The process of activity review and analysis is called evaluation. To be consistent with current practice we use the same terminology in this report. However, activity evaluation should not be confused with the overall evaluation of IITD to be conducted when IITD expires.

The application evaluation process begins when the Director assigns an evaluator to each application. The evaluator is responsible for a complete activity evaluation and must obtain all necessary information from the applicant. Therefore, the evaluator will usually meet with the applicant to (1) discuss the application, (2) obtain information where the application may have been incomplete or (3) request additional information that is necessary. Activity analysis is undertaken in a standard format, using the Application Evaluation Report which is shown in Appendix E. If the evaluator needs additional expertise to evaluate the proposal it may be necessary to consult an expert(s) in that field. The Application Evaluation Report, when completed, is sent to the evaluator's Director who reviews the report and returns it to the Program Coordinator.

The Program Coordinator reviews the evaluation and forwards the application and the Application Evaluation Report to the members of the Coordinating Committee.

The Coordinating Committee is composed of four representatives: two from the Department of Commerce and Technology, one representative from Community Improvement Corporation (CIC), and one from the Department of Regional Industrial Expansion (DRIE). In most cases, this is the first time in the process that the representatives from CIC and DRIE are made aware of the application.

The Coordinating Committee meets to discuss the application and make a decision to:

- Send the application back for further information, or
- Make a recommendation to the Management Committee to approve or reject the application.

Once a recommendation is made by the Coordinating Committee the application is then forwarded to the members of the Management Committee. The Management Committee consists of four voting members:

- The Regional Executive Director of DRIE;
- The Deputy Minister of the Department of Commerce and Technology;
- The General Manager of CIC; and
- A representative from the Ministry of State for Science and Technology.

The Management Committee reviews the application evaluation and the recommendations and makes a final decision to approve or reject. Activities involving over $250,000 in federal funds* are beyond the scope of authority of the federal representatives and must be further reviewed by DRIE Ottawa staff.

When final approval is obtained, the activity may proceed.

While Program 4 is not accessible by the general public, a similar evaluation procedure is used for activities emanating from federal and provincial staff.

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* This limit was increased from $100,000 as of June, 1987.

Because Program 2 involves large activities to be implemented by the province, the procedure is somewhat different. Federal and provincial staff collaborated on developing terms of reference and reviewing proposals for the Incubation Facility. These are now being evaluated, after which the decision-making process will be similar to that for other IITD activities. Both federal and provincial staff are participating on a Steering Committee to develop and monitor other new programs under Program 2.

2.10 Target Population

2.10.1 Intended Targets

Achievement of IITD objectives is expected to derive from technological improvements to traditional industry as well as creating new types of industry.

Generally, the target population consists of firms and businesses involved in applied technology and non-profit agencies (universities, governments and research institutes) in the same field. The actual target population described in the program guidelines is as shown in Exhibit 2.

Although all sectors are eligible for funding provided the eligibility criteria are met, there will be special emphasis on sectors considered key to development. These sectors are the basis for the Task Groups. These currently include:

- Aquaculture;
- Food sciences and technology;
- Forest products;
- Manufacturing and management technology;
- Minerals and materials.

Others could be added at the request of the Management Committee.

EXHIBIT 2: TARGET POPULATION BY PROGRAM

	Target Population
PROGRAM 1: Strategic Technology Support	
1.1 Opportunity Identification and Prioriza-tion	. Parties to IITD
1.2 Public Sector Sponsored Applied R & D	. Provincial and federal government research and development performers . Associations . Cooperatives . Other organizations . Individuals
1.3 Applied Technology Infrastructure	. Private Sector research and development performers . Organizations engaged in applied technology
PROGRAM 2: Innovation Climate	
2.1 Technology Venture Initiative	. Individuals and firms planning to develop new or advanced technology products/applications
2.2 Technology Information Transfer	. Individuals and firms interested in new or advanced technology
PROGRAM 3: Direct Support to the Private Sector	
3.1 Complementary Financial Assistance	. Firms engaged in advanced technology . Firms about to become engaged in new or advanced technology
3.2 Technical Audits, Entrepreneurial Visits and Studies	. As 3.1 plus . Industry Associations
PROGRAM 4: Planning, Coordination and Implementation	
4.1 Administration	. Parties to IITD
4.2 Planning and Feasibility Studies	. Parties to IITD

2.10.2 Scope of Activities

It is anticipated the activities will range in scope from a few thousand dollars to as high as a million dollars. Generally speaking, Program 1 is aimed at encouraging a smaller number of larger scale activities primarily in public sector agencies while Program 3 is intended to support smaller scale private sector activities. Exhibit 3 shows the average size of activities anticipated and the expected number of activities over the life of IITD.

EXHIBIT 3: SCOPE AND EXPECTED NUMBER OF ACTIVITIES

Program:	Average Size of Activities	Expected Number of Activities
1.2	$ 250,000	25
1.3	750,000	6
3.1		
3.1.1	100,000	
3.1.2	20,000	100
3.1.3	10,000	
3.1.4	50,000	
3.2	4,000	200-300

Source: DPA estimates based on 1987/88 Work Plan

2.10.3 Program Response

As of July 7, 1987, 82 applications had been received. Of these, 25 have been approved, 46 are pending, 4 have been rejected, and 7 have been withdrawn. It is anticipated that as many as 400 applications will be received during the life of IITD. By far the greatest response to IITD has been from the public sector. Most of the public sector proposals are characterized as complex and requiring large program expenditure.

The complexity of many of the public sector proposals has required additional evaluation time.

Although the private sector response has been slow to date, it is believed that the number of private sector applications is starting to pick up. Recent publicity about IITD in advertisements and promotional meetings have helped increase the private sector awareness and the number of enquiries. The main reason the public response has not been stronger is the longer time required for the private sector (compared to the public sector) to become aware of and understand the programs available.

2.11 Resources

Canada and New Brunswick have allocated $28.57 million for the five years of IITD. The total federal share is $20 million while the total provincial share will be $8.57 million. The original five year budget plan as developed prior to the start of IITD is shown in Exhibit 4.

EXHIBIT 4: GLOBAL 5 YEAR BUDGET ($000)

	86-87	87-88	88-89	89-90	90-91	TOTAL
PROGRAM 1						
1-1	25	150	150	125	50	500
1-2	160	1,140	1,500	2,000	1,500	6,300
1-3	1,000	1,500	1,700	1,500	800	6,500
	1,185	2,790	3,350	3,625	2,350	13,300
PROGRAM 2						
2-1	185	750	750	750	665	3,100
2-2	125	330	330	330	235	1,350
	310	1,080	1,080	1,080	900	4,450
PROGRAM 3						
3-1	250	1,500	1,500	1,000	1,000	5,250
3-2	75	650	650	650	475	2,500
	325	2,150	2,150	1,650	1,475	7,750
PROGRAM 4						
4-1	125	725	725	725	700	3,000
TOTAL	1,945	6,745	7,305	7,080	5,425	28,570

These estimates represent expected commitments each year (not expenditures). There will be a lag time on payments from the date of approval until an activity is actually implemented. It is expected that payouts under IITD will continue for two years beyond the termination date. The 87/88 budget is still being discussed and remains to be finalized.

2.12 Impacts and Effects

As previously stated, the overall objective of IITD is to accelerate the development and application of technology to increase and enhance employment opportunities in New Brunswick. As stated in IITD a three-part strategic approach to achieving the overall objective will be utilized:

- improving competitiveness of existing industry by technology transfer:
  - increasing industry awareness and knowledge of best practice technologies;
  - helping industry acquire best-practice technologies;
- diversifying the industrial base:
  - assisting local entrepreneurs, firms and innovators to expand, diversify and innovate;
  - attracting new technology-based enterprises.
- increasing the in-province capability in technological development and innovation.

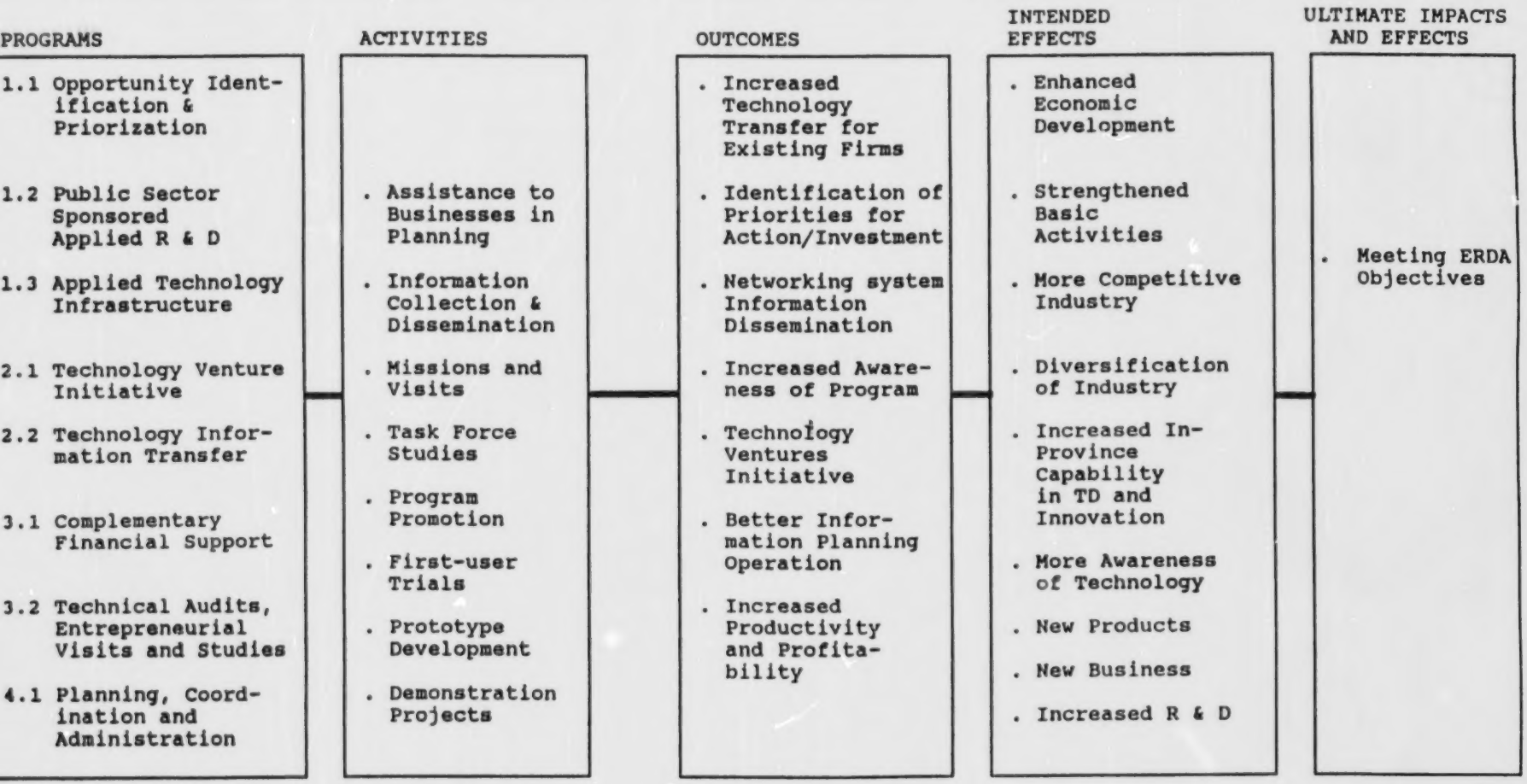
Interviews identified some additional desired impacts and effects of the IITD:

- more business start-ups as a result of the Technology Venture Initiative
- new products
- greater awareness of research
- more state-of-the-art companies
- recognition of innovation
- greater awareness of the potential of technology in industry.

2.13 Logic Model

The conceptual model of IITD showing the programs and sub-programs, activities, outcomes, intended effects and ultimate impacts is shown in Exhibit 5.

HIBIT 5: PROGRAM LOGIC MODEL


PROGRAMS
1.1 Opportunity Identification & Priorization
1.2 Public Sector Sponsored Applied R & D
1.3 Applied Technology Infrastructure
2.1 Technology Venture Initiative
2.2 Technology Information Transfer
3.1 Complementary Financial Support
3.2 Technical Audits, Entrepreneurial Visits and Studies
4.1 Planning, Coordination and Administration
ACTIVITIES
. Assistance to Businesses in Planning
. Information Collection & Dissemination
. Missions and Visits
. Task Force Studies
. Program Promotion
. First-user Trials
. Prototype Development
. Demonstration Projects
OUTCOMES
. Increased Technology Transfer for Existing Firms
. Identification of Priorities for Action/Investment
. Networking system Information Dissemination
. Increased Awareness of Program
. Technology Ventures Initiative
. Better Information Planning Operation
. Increased Productivity and Profitability
INTENDED EFFECTS
. Enhanced Economic Development
. Strengthened Basic Activities
. More Competitive Industry
. Diversification of Industry
. Increased In-Province Capability in TD and Innovation
. More Awareness of Technology
. New Products
. New Business
. Increased R & D
ULTIMATE IMPACTS AND EFFECTS
. Meeting ERDA Objectives

3.0 DATA SOURCES AND PROGRAM MONITORING

This chapter focuses on data for program monitoring. Program monitoring consists of procedures undertaken by Federal and Provincial staff to check on the performance of IITD relative to objectives, to identify problems and make necessary mid-course corrections.

Data Sources consist of three categories:

- data currently collected or produced
- data sources in development
- new data sources.

3.1 Data Currently Collected

3.1.1 IITD Data Base

The data base for IITD is identical to the data base used by the Department of Commerce and Technology for the Industrial Sub-Agreement. The data base uses applications and the evaluation report as source data and is designed to run on the Department's IBM system 36.

Information is entered into the data base at several points and is continually updated by the Reporting Systems Administrative Officer as new or additional information is received. The first data entries are made at the time the application is received and an application number is assigned. Application numbers identify IITD, the program, sub-program and project under which the applicant has applied. Each application file is updated as new information is available.

The data file consists of seven different screens:

- Basic Information;
- Internal Information;
- Current Status;
- Payment Schedule;
- Cash Flow Forecast;
- Monitoring Information;
- Press Release Sheet.

Each screen contains fields where data can be entered. Exhibit 6 shows the contents of each screen under the following headings:

- field description;
- source of the data input;
- whether or not the data is currently being entered, and
- the point when the data is normally entered.

The data base contains a sophisticated report generating system which is flexible and straightforward to use. To generate a report the user enters the query option and is prompted throughout the session on its use. (There is also a comprehensive help screen available to the user, if needed). Within the query mode, the user will be prompted to specify the various information needed to produce reports. A report can be produced for any field(s) in the data base. The only restriction placed on a report is that its width remain within a 198 character limit if it is to be printed out on the Department of Commerce and Technology's printers.

Using this system, it is possible to produce a wide array of reports. Records may be selected by program, sub-program or project with an almost unlimited combination of fields. In addition, the user may request that the records be counted, totalled, averaged, etc. by field or the user can write a formula to perform specific calculations. Another convenient option

EXHIBIT 6: CONTENTS OF THE DATA BASE

FIELD	SOURCE	CURRENTLY IN USE?	WHEN DATA IS FIRST ENTERED *
SCREEN 1 - Basic Information			
Project Number	Application Form	yes	1
Project Name	Application Form	yes	1
Description of Project	Application Form	yes	1
Location of Project	Application Form	yes	1
Commitment Number	Internal Coding	no	n/a
Company/Applicant:			
Number	Manufacturing Directory	no	n/a
Name	Application Form	yes	1
Phone Number	Application Form	yes	1
Contact	Application Form	yes	1
Street	Application Form	yes	1
S.I.C.	Evaluation Officer	no	2
City	Application Form	yes	1
Postal Code	Application Form	yes	1
Type of Business	Application Form	yes	1
Consultant	Application Form	yes	1
SCREEN 2 - Internal Information			
Evaluating Officer	Appl. Evaluation Report	yes	1
Evaluating Branch	Appl. Evaluation Report	yes	1
Project Cost	Application Form	yes	1
Agreement Share ($)	Appl. Evaluation Report	yes	3
Agreement Share (%)	Appl. Evaluation Report	yes	3
Provincial Share ($)	Appl. Evaluation Report	yes	3
Federal Share ($)	Appl. Evaluation Report	yes	3
Cost Details: Missions	Appl. Evaluation Report	yes	4
Cost Description	Appl. Evaluation Report	yes	4
Amount	Appl. Evaluation Report	yes	4

* 1 = Upon receipt of application
  2 = During Evaluation Process
  3 = After management committee decision
  4 = After acceptance
  5 = After project complete

EXHIBIT 6: CONTINUED

FIELD	SOURCE	CURRENTLY IN USE?	WHEN DATA IS FIRST ENTERED *
SCREEN 3 - Current Status			
Current Status	Report. Sys. Admin. Off.	yes	1
Date:			
Application	Application Form	yes	1
Application Received	Appl. Evaluation Report	yes	1
Evaluation Completed	Appl. Evaluation Report	yes	2
ADM Received	Report. Sys. Admin. Off.	yes	2
Coordinating Committee	Program Coordinator	yes	2
Management Committee	Program Coordinator	yes	2
Approved	Program Coordinator	yes	3
Letter of Offer	Program Coordinator	yes	3
Accepted	Program Coordinator	yes	4
Withdrawn	Program Coordinator	yes	1-3
C.O.D.	Program Coordinator	yes	3
Completed	Program Coordinator	yes	5
Provincial Electorial District	List of Codes	yes	1
Federal Electorial District	List of Codes	yes	1
County	List of Codes	yes	1
Industrial Commission	List of Codes	yes	1
Other Government Assistance	Application Form	yes	1
SCREEN 4 - Payment Schedule			
Project Number	Computer Retrieved	yes	n/a
Vendor	Invoice	yes	4
Fiscal Year	Invoice	yes	4
Cost Code	Internal Coding	yes	4
Payment Amount	Invoice	yes	4
Date of Payment	Invoice	yes	4
Total to Date	Computer Calculated	yes	4
SCREEN 5 - Cash Flow Forecast			
Fiscal Year	Given	yes	n/a
Budget Amount ($)	Appl. Evaluation Report	yes	2
Actual Amount ($)	Computer Retrieved	yes	n/a
Remaining Amount ($)	Computer Calculated	yes	n/a
Comments	Appl. Evaluation Report	yes	1-5

* 1 = Upon receipt of application
2 = During evaluation process
3 = After Management Committee decision
4 = After acceptance
5 = After project complete

EXHIBIT 6: CONTINUED

FIELD	SOURCE	CURRENTLY IN USE?	WHEN DATA IS FIRST ENTERED *
SCREEN 6 - Press Release Sheet			
Project Number	Computer Retrieved	yes	n/a
Applicant	Computer Retrieved	yes	n/a
Street	Computer Retrieved	yes	n/a
Contact	Computer Retrieved	yes	n/a
City	Computer Retrieved	yes	n/a
Telephone	Computer Retrieved	yes	n/a
Postal Code	Computer Retrieved	yes	n/a
Project Location	Computer Retrieved	yes	n/a
Type of Business	Computer Retrieved	yes	n/a
Project Description	Computer Retrieved	yes	n/a
Provincial Electorial District	Computer Retrieved	yes	n/a
Federal Electorial District	Computer Retrieved	yes	n/a
Impact on Jobs:			
Created	Appl. Evaluation Report	yes	5
Maintained	Appl. Evaluation Report	yes	5
Lost	Appl. Evaluation Report	yes	5
Estimated Results From Project	Appl. Evaluation Report	yes	5
Starting Date	Appl. Evaluation Report	yes	4
Completion Date	Computer Retrieved	yes	n/a
Date of Offer	Computer Retrieved	yes	n/a
Date of Acceptance	Computer Retrieved	yes	n/a
Estimated Total Project Cost	Computer Retrieved	yes	n/a
Total Offer	Computer Retrieved	yes	n/a
Project Officer	Computer Retrieved	yes	n/a
SCREEN 7 - Monitoring Information			
Approved	Appl. Evaluation Report	no	3
Total Jobs	Post Project Report	no	5
Person Years	Post Project Report	no	5
Gross Sales	Post Project Report	no	5
Incremental Sales	Post Project Report	no	5

* 1 = Upon receipt of application
  2 = During Evaluation Process
  3 = After management committee decision
  4 = After acceptance
  5 = After project complete

available under this system is the automatic generation of reports. For example, a specific report can be programmed to be generated at regular intervals (i.e. once a month) with no operator assistance.

3.1.2 Application Form

The application form, which is shown in Appendix D, is one of the main sources of data for the data base, and the document which triggers the establishment of a file on an applicant. The application form contains information about the applicant's business or organization, a description of the activity being applied for, and financial details concerning the project.

3.1.3 Application Evaluation Report

The application evaluation report is shown in Appendix E. It is the document which contains summary data prepared by staff of the Department of Commerce and Technology in reviewing the application. This form contains more detailed information about the activity itself as well as the financial resources of the applicant generally.

Data from the application form and the application evaluation report serve as the main source of input to the IITD data base.

3.1.4 Annual Work Plan

The Annual Work Plan is presented to the Management Committee prior to the start of each fiscal year. The work plan is an important document which:

- reviews in general terms the activity of the past year

- establishes objectives for the coming year in terms of:
    - number of activities anticipated by program, sub-program and project;
    - commitment of funds;
    - cash flow forecasts by year;
    - breakdown of costs by federal and provincial share.

The Annual Work Plan sets the baseline for the year and is a useful reference point for evaluation as it can be used to measure performance against goals.

3.2 Inventory of R & D Performers (In Progress)

As a specific activity under IITD, an inventory of R & D performers is in the process of being compiled. This inventory is based on mail questionnaires sent out to firms. A copy of the questionnaire is included in Appendix F.

It is planned to update the inventory at least biannually. This will provide a means of globally tracking the state of technological change in the province.

With the inventory, it will be possible to track changes in:

- the number of firms able to perform R & D;
- the type and extent of technology added;
- the numbers and qualifications of R & D staff;
- the types of services which can be provided.

We recommend, in addition, that in the course of automating the inventory, some linkage be developed to the IITD data base so

that it will be possible to determine if performers have used IITD.

3.3 Post Activity Data Collection

An important source for obtaining information about the actual expenditures, job creation and sales for a particular activity is a post-activity report.

We recommend that a system of post-activity reporting be developed.

Post-activity reporting should be a relatively simple task so as not to add significantly to the workload of program administration staff. If properly designed and controlled, much of the work can be done by the recipients of assistance.

There are two types of reports which should be used:

Activity sign-off reports. This report would be produced for each activity upon completion. Submission of a sign-off report by a recipient should be made a condition of receiving final payment, thereby ensuring that there is an incentive to filling in the report. For longer term projects lasting more than a fiscal year, an interim report on the past year should be used. This is needed to track job creation and expenditure activity by year. Appendix G, Reports G-1 to G-3 provide examples of the types of reports proposed. The IITD data base will be updated when the final report is received to reflect the actual expenditures, jobs and sales.

Annual Updates. This report will provide a brief summary of what happened after the activity was implemented. It will record annual changes in jobs, sales, return on investment and allow for more subjective areas such as unexpected problems, expansions or

spin-off activity. It provides a structured means of "keeping in touch" with recipients of support as an additional way of monitoring the progress of IITD. The annual update forms are shown in Appendix G, Reports G-4 and G-5. The data base's monitoring screen will be updated using the annual reports.

3.4 Quarterly Reports

Quarterly monitoring by project, sub-program and program is a requirement of IITD. The General Administrative Procedures require that:

- quarterly reports be made on all sub-programs and projects; and

- quarterly reports be prepared within six weeks of the end of each quarter.

To date, this has tended to involve statistics on applications, approvals and commitments. We recommend a more comprehensive reporting system for Management Committee, which will include some measures of progress relative to objectives and provide signals of impending problems such as a lack of take-up of funding, program design eligibility issues, or potential funding problems.

Reports will provide information to management about the impacts of the projects and sub-programs in quantifiable (e.g., jobs, sales, investment) as well as qualitative terms (whether technology was adopted, whether assistance led to improved products or processes, etc.).

The reports can be short and concise and presented on an "exception" basis. In other words, only problem areas will be

reported on and if there are no difficulties, those sections of the report will not be completed.

Although the general style of presentation will be the same for all 16 programs and projects, each quarterly report will be modified to suit the particular objectives or intended effects. Sample reports are provided in Appendix H, Reports H-1 to H-12. No reports have been developed for Sub-Program 2.2 since the objectives of the program have not been developed.

The general format for all reports will be:

- Statistical recap & summary of the applications.
- Comments on variances from work plan.
- Description of corrective actions proposed.
- Recommendations for Management Committee.
- Budget allocation changes required.

Where decisions are needed from Management Committee for adjustments to budgets or program changes, these will be specifically identified on each quarterly report.

3.5 Report Summary

Exhibit 7 provides a summary table showing the reports to be used by function and program and their location in the Appendices.

EXHIBIT 7: REFERENCE TABLE FOR MONITORING REPORTS AND DATA COLLECTION INSTRUMENTS

	Post-Activity	Annual Interim Report	Annual Follow-Up	Quarterly Report
PROGRAM 1				
Sub-Program 1.1	N/A	N/A	N/A	H-1
1.2	G-1	G-3	G-4	H-2
1.3	G-1	G-3	G-4, G-5	H-3
PROGRAM 2				
Sub-Program 2.1				
Project 2.1.1	N/A	N/A	N/A	H-4
2.1.2	N/A	N/A	N/A	H-5
Sub-Program 2.2	N/A	N/A	N/A	N/A
PROGRAM 3				
Sub-Program 3.1				
Project 3.1.1	G-1	G-3	G-5	H-6
3.1.2	G-1	G-3	G-5	H-7
3.1.3	G-1	G-3	G-5	H-8
3.1.4	G-1	G-3	G-5	H-9
Sub-Program 3.2	G-2	N/A	N/A	H-10
Sub-Program 3.3	N/A	N/A	N/A	H-11
PROGRAM 4	N/A	N/A	N/A	H-12

3.6 Management Reports

In addition to quarterly reports, other reports are needed for effective management. The automated data base has the capacity to generate reports for those involved in the day-to-day administration of IITD, and can produce them on a regular and/or scheduled basis with a limited amount of programming.

We recommend a regular reporting system be developed from the data base consisting of five reports:

- Monthly count of application activity;
- Monthly listing of pending applications;
- Quarterly cash flow projections;
- Quarterly report on activities by sector; and
- Monthly report on application processing time.

These reports will primarily be used by program staff in their day to day monitoring activities and in preparing reports for the coordinating and Management Committees. Circulation of the reports will be decided by the Committees.

Exhibit 8 shows the details of each of these reports.

3.7 System Enhancements

We recommend some minor system enhancements be made to insure that the monitoring system reports can be produced. These enhancements are detailed below:

- The SIC code is needed to provide summaries by sector. Sector is an important variable since IITD proposes to focus on specific sectors and tracking changes by sector will be an evaluation indicator. Space is provided in the data base but this code is usually not filled in. The SIC code should be included by the evaluation officer for all projects and entered in the data base.

- There is a cash flow screen in the data base which picks up data following project approval. It would also be helpful to create a similar report using estimates for projects pending to give a more complete picture of the potential

EXHIBIT 8: PROPOSED MONITORING REPORTS

TITLE	DESCRIPTION	CONTENT	FREQUENCY	SOURCE	PRIMARY SORT SEQUENCE	DISTRIBUTIO
Applications	Account of all applications for a specified period	No.applications No.pending No.approved No.rejected No.withdrawn No.accepted No.active No.completed	Quarterly annual recap, & on request	Data Base	Program Sub-Program Project	Coordinatin Committee Management Committee
IITD Status	Listing of all applications pending	Total pending, Firm name, Activity contribution, Location in evaluation process	Monthly	Data Base	Program Sub-Program Project	Coordinatin Committee Management Committee
Cash Flow Projection	Financial Status of IITD	Budget $ for IITD, Actual $ spent current year, remaining $ current year, Remaining $ future years	Quarterly, annual recap	Work Plan & Data Base	Program Sub-Program Project	Coordinatin Committee Management Committee
Projects by Sector	Listing of applications by SIC	Status Project cost Program Project	Quarterly, annual recap	Data Base	SIC code	Coordinatin Committee Management
Elapsed Time for Application Processing	Elapsed time between receipt & approval of applications	Application number, Date received, Date approved, SIC code	Quarterly	Data Base	Program	Coordinatin Committee Management Committee

commitments and impacts arising from applications in the system.

3.8 Program 2 Data

There is no data base established for any projects under Program 2. We recommend that the IITD data base system be modified as appropriate (for example to reflect the fact that no data about a particular activity applies) and used by the TVI staff. The Program Coordinator would have direct access to the TVI data base for monitoring purposes.

The numbering system for activities under TVI should have a cross-referencing capacity to other sub-programs and projects. This will enable evaluators to determine whether TVI clients followed through to obtain assistance under other parts of IITD.

4.0 EVALUATION ISSUES AND PROBABLE STRATEGY

This Chapter identifies the evaluation issues of IITD, and the likely evaluation strategy.

It is premature to identify all the issues which may arise over the five year life of IITD or the best evaluation strategy. However, the intended impacts and effects of IITD are well specified and the overall thrust of the final evaluation is fairly clear.

We have identified nine evaluation issues which in our opinion, will be the basis for developing the evaluation data collection system and three options for the final evaluation.

These are organized under the headings of:

- Rationale;
- Objectives Achievement;
- Impacts and Effects; and
- Alternatives.

Many of these issues have related evaluation questions which are more specific to individual programs or initiatives in IITD. In total, there are 22 questions which form the basis of the evaluation framework and the development of evaluation indicators. A full presentation of the evaluation questions is contained in Chapter 5.

The final evaluation of IITD will probably not deal with all 22 questions, nine issues and four categories of issues. Indeed, it can be expected that the evaluation will be much more focussed. With the benefit of four years' operating experience, it will be much clearer to the evaluators and Management Committee exactly which issues are of most concern. At that time the information

required for decision making about future agreements will, more than any other factor, establish the agenda for the final evaluation.

4.1 Rationale Issues

Rationale issues essentially address the question:

"Does IITD make sense and is it internally consistent?"

The three main evaluation questions relating to rationale include:

Issue 1

Relevance: Have the basic conditions supporting the establishment of IITD changed to the extent that the programs and/or sub-programs are no longer relevant or appropriate?

The rationale for the program is very clearly laid out in the text of IITD. The rationale issues which need to be examined as part of the evaluation relate to the extent to which the basic underlying conditions may have changed. These changes may be in terms of a more rapid advancement in technology in the rest of Canada than in New Brunswick, some major changes in direction of technological development, or significant changes in the overall economic structure of the country. It is difficult to state now what the main elements of this issue are likely to be since technology will probably change very quickly before the end of IITD. Nevertheless, it is an issue which will be fundamental in addressing what the federal and provincial governments do after IITD.

Issue 2

Needs Fulfillment: Did the initiatives fulfill real needs?

The design of IITD was based on several assumptions about the state of technology in the province and the types of thrusts or programs which were needed to achieve improvements. For example, a study of technology in the province conducted by Arthur D. Little of Canada Limited in 1985 diagnosed the problems and sought extensive input from research performers. IITD was tailored partially from the results of that study.

It will be important to review in hindsight, how effective the needs identification process was and how well the programs responded to the needs.

Issue 3

Causal Linkages: Were activities and programs linked to the intended impacts?

Initiatives need to be internally consistent. That is, they must relate directly to the intended impacts and motivate the type of behaviour by others needed to achieve the intended results. IITD can really be considered as five separate and different approaches to achieve the overall goal:

Program 1
Technology Ventures Initiative
New Ventures Incubation Centre
Technology Information Transfer, and
Program 3

Each of these main initiatives needs to be examined separately to determine how effectively it resulted in meeting objectives. This is particularly important in the case of Program 1 and the two pilot projects which are new and different types of initiatives and which involve large blocks of funding for individual projects.

4.2 Objectives Achievement Issues

Objectives achievement issues relate to the effectiveness of IITD in achieving the goals and objectives which were set. These are explicitly identified in IITD. There is one overriding objectives achievement issue:

Issue 4

Technological Development Objective: Have the initiatives contributed to the development and implementation of technology in New Brunswick?

One of the intended effects of IITD is to encourage businesses to undertake projects or to obtain new technology that they would likely not introduce without the financial stimulus of IITD. The evaluation will need to measure the incremental effects of IITD to determine the extent to which this development has taken place. The issue also covers other IITD objectives such as competitiveness, new product development and productivity.

4.3 Impacts and Effects Issues

Impacts and effects relate to the overall intended impacts of IITD. Impacts are different from objectives in the sense that they imply attainment of higher order results which normally

program designers infer will result from undertaking specific programs or initiatives with specific objectives.

There are two main issues in the category of impacts and effects.

Issue 5

ERDA Objectives: What was the overall impact of IITD on economic development in terms of job creation/protection, establishment of new firms, improved company profitability, return on investment?

Meeting the ERDA objectives of job creation, increased output, and enhanced economic activity for the province as a whole will need to be assessed since IITD is one of the vehicles being used in furthering the ERDA objectives.

Input-output techniques are the most commonly recognized form of impact analysis. This approach assesses the gross or macro economic effects in terms of output, income, and employment, of expenditures on projects arising from new initiatives or from expansions. Input-output models are specifically utilized to trace the inter-relationships which exist between the various sectors of the economy. The model accumulates and estimates the incremental effects of rounds of spending generated by expenditures until the income generated in each instance has finally "leaked" out of the economy.

One of the problems in using this technique for IITD is the small size of most of the activities. Even the larger activities, which may involve as much as a million dollars, are too small to have measurable effect in the I/O model.

Therefore the economic impacts of IITD will probably be evaluated using multipliers estimated in the New Brunswick inter-provincial input-output model. However, multipliers will be manually applied according to the sector in which the expenditure has occurred to estimate the direct and indirect effects.

Information will be required on the incremental activities created or leveraged by IITD since these are the outcomes which can be attributed to the existence of IITD. An activity can be considered incremental if either of the following conditions apply:

- would the outcomes or activities resulting from the activity expenditures have transpired without the expenditure?; or

- did the outcomes or activities take place sooner than planned?

In other words, if the evaluator can determine definitely, without IITD, an outcome or activity would not have occurred, or would have been delayed several years, then the project can be considered incremental. The only individual who really knows the answer to this question is the executive officer or decision maker for the organization receiving the assistance. It is therefore incumbent on the evaluator to ask the question and rely upon the executive officer to give a frank and truthful "best estimate" of whether the outcome would have proceeded without public support.

Data which will be required to quantitatively estimate the economic impact of IITD will include the incremental:

- employment (person-years);
- sales;
- cost of materials;

- capital expenditures;
- training costs;
- wages and salaries.

In addition, the less quantifiable impacts of productivity and competitiveness will also be determined through interviews and opinions of recipients of assistance and program staff.

Issue 6

Awareness of Technology: Did IITD result in firms being generally more aware of the importance of and potential applications for technology in their businesses?

One of the implicit impacts of IITD is to raise substantially the awareness of applied technology in businesses in the province. While not the subject of any specific program, it is anticipated that the level of activity which will be generated by IITD, and the centres to be established to provide advice and assistance should have the result of a heightened awareness among firms, whether or not they are users of technology, or how technology could be used in their operations and/or the potential applications for it.

4.4 Alternatives Issues

Alternatives issues address questions related to the way in which the program was delivered and whether the objectives could have been achieved more efficiently and effectively. The issue usually deals with whether the programs themselves were the best way to meet the intentions of the objectives or whether they could have been designed or changed in any way to make them more effective.

Also of particular importance for IITD is a separate consideration of the two pilot projects because there will have to be decisions made about whether or not to continue them after the termination of IITD.

Three main issues have been identified under the category of Alternatives.

Issue 7

Program Delivery: Were the programs delivered as effectively and efficiently as possible?

This issue involves an examination of the ways in which the programs were delivered related to concerns such as the processing of applications and claims and the application decision making process. Program delivery also relates to communication and the promotion of the program, take-up related to these efforts and similar issues. The issue also addresses the effect which IITD had on staffing and work assignments in the Department of Commerce and Technology.

Issue 8

Program Design: Were there better ways of meeting the objectives and intended effects?

This question will address the overall approach to the main problem of technology development. It should address the vehicle selected (IITD) as opposed to other possible approaches. It also addresses concerns such as the level and type of funding for projects as well as the overall financial commitment to IITD and the allocation by program, sub-program and project.

Also important is the annual cash flow allocated to IITD to fund the work program for the year.

Issue 9

Continuation of Pilot Projects: Should the pilot projects be considered for on-going support?

Program managers consider the pilot projects to require complete evaluations in their own right. Decisions will need to be made after the expiry of IITD as to whether to continue to provide financial support to these projects. Thus, the centres need to be evaluated in terms of their relative effectivness in helping entrepreneurs and achieving IITD objectives.

4.5 Probable Evaluation Strategy

One of the purposes of the framework is to anticipate the eventual evaluation strategy. This includes anticipating the evaluating options and commenting on their implications for data collection activities.

The plan is always tentative because conditions and priorities can be expected to change during the next four years. IITD is an ERDA sub-agreement, and it is usually the practice that these sub-agreements continue in some modified form in subsequent periods. Therefore, when the final evaluation is undertaken, program and policy staff will likely have a good sense of the changes which should be reflected in a new sub-agreement. The evaluation helps to confirm or refute these opinions and provide additional useful feedback for program design.

The nature of program evaluation in the federal environment is also changing to more focussed studies addressing a limited

number of essential issues, as opposed to the more broad based all-encompassing evaluations of the past. It is reasonable to expect this trend to continue for the next three years.

At the same time, it must be recognized that IITD represents a "new breed" of sub-agreement. There are only a handful of similar sub-agreements in Canada. Consequently, there is a great deal of interest in this approach by many different players. Answering the numerous questions from all these interest groups may also result in the need for a more extensive evaluation than would usually be required.

4.5.1 Evaluation Options

This section is provided to give an indicator of the levels of effort which may be invested for various evaluations options. The options vary in terms of the number of issues or the degree of rigour applied to answering evaluation questions. There is an infinite range of approaches, but we believe that these can be grouped into three basic options:

OPTION 1: Evaluation based on internal review.

OPTION 2: Evaluation involving internal review and interviews with firms receiving large funding assistance.

OPTION 3: Extensive evaluation including surveys of recipients in all programs, non-applicants, etc.

The main difference between options is the degree of confidence in the final results and the degree to which conclusions can be drawn about specific programs or projects. The first option, for

example would generally deal with IITD as a whole, possibly by program, whereas Option 3 could address issues for each sub-program and project.

These options are discussed in more detail below. In the description of each option we provide indicative cost estimates assuming the work is contracted out. These costs would be less if all or part of the work were carried out in-house.

OPTION 1: Evaluation Based on Internal Review

Scope

This approach would use unstructured data sources such as interviews with program officials. The approach is most effective if the main issues relate to administrative concerns or the general thrusts of IITD. The evaluators would use a interview guide focussed on key issues.

Purpose

The purpose is to provide management with general, qualitative information to assist in planning subsequent Agreements or extensions to the pilot projects.

Methodology

In summary form this approach involves:

- Interviews with The Department of Commerce and Technology and DRIE staff involved in administration, planning and project evaluation;

- Interviews with TVI staff and staff of the New Venture Incubation Centre;

- Interviews with Chairmen of Task Groups;

- File and document reviews, including quarterly annual reports, post-project reports and applicant files.

Estimated Level of Effort

This type of evaluation would involve approximately 25 person days of work. If contracted out, costs would be in the vicinity of $12,000-$15,000.

OPTION 2: Evaluation Involving Internal Review and Interviews with Firms Receiving Large Funding Assistance

Scope

This option would involve all the tasks of Option 1 plus an interview survey with data collection from all the recipients of $1 million or more, and up to ten recipients of $100,000 or more.

Purpose

The purpose is to provide a more objective review of IITD, particularly as it relates to Program 1. Program 1 is the one program which is most clearly linked to the broad objectives of IITD and the projects in this program are of large enough scope that most of the evaluation issues can be addressed within each project.

Methodology

The methodology would include all the tasks of Option 1, plus:

- Detailed interviews/case studies with approximately 20 major research performers;

- Estimation of IITD impacts related to ERDA objectives from data provided by sample firms;

. Objective measures of the gains in technology development.

Estimated Level of Effort

The additional tasks described above would represent approximately 50 additional consulting days of work above the level estimated for Option 1. If contracted out, costs would be in the range of $40,000-$45,000.

OPTION 3: Extensive Evaluation including Surveys of Recipients in all Programs, Non-Applicants, etc.

Scope

This comprehensive evaluation would involve, in addition to interviews with large firms, a stratified sample of recipients under all components to determine the effectiveness of each component in meeting program objectives. A sample of non-recipients would also be included as a control to determine changes in awareness of technology and IITD itself.

Purpose

To address evaluation issues with a high degree of confidence at the project level.

Methodology

The methodology would include the tasks of Option 2, plus:

. Design, conduct and analyze survey results for recipient survey (assumed sample size 150);

. Design, conduct and analyze survey of non-recipients (sample size 150);

. Socio-economic impact assessment of IITD.

Level of Effort

This approach would require an additional budget over and above the Option 2 budget of approximately $25,000. Total costs under this approach would amount to $65,000-$75,000.

4.5.2 Comparison of Options

Exhibit 9 provides a summary overview of each of the options in terms of:

. The expected results of the evaluation.
. The level of accuracy and confidence.
. The elapsed time needed to conduct the evaluations.
. The budget implications.

EXHIBIT 9: SUMMARY OF OPTIONS

	Expected Results	Level of Accuracy & Confidence	Person Days	Cost ($000)
OPTION 1	. good understanding of major issues . qualitative feedback on programs . helpful for planning new Agreement	. qualitative, based on opinions . no primary source data	25	12-15
OPTION 2	. quantitative measures of achievement for major users . concentration on strategic support	. more quantitative, particularly for Program 1	75	40-45
OPTION 3	. good understanding of major issues across all sub-programs . useful third-party feedback for program design or changes . good understanding of program awareness	. quantitative measures for all programs . representative sample across all sub-programs . first hand opinion	100	65-75

Selecting the best option is premature for reasons already discussed. It would be prudent, however, to plan for an evaluation of the scope suggested by Option 3. This is based on our sense that:

- There is intensive national interest in this vehicle for promoting technology development;

- The range of issues is very broad and there is not much consensus now on which are most important;

- Because the initiative is new, careful consideration of its effects be required in deciding whether or not to continue to fund individual components.

We recommend that the monitoring and evaluation data collection activities be based on the assumption that the final evaluation will be a comprehensive study involving surveys of applicants, a socio-economic impact assessment, case studies of the larger activities, objective measures of gains in technology development, productivity improvements and increased competitiveness.

Planning for the most comprehensive evaluation will ensure that efforts are made to develop baseline and project information which will ultimately be needed, regardless of which option is finally selected.

5.0 EVALUATION DATA SOURCES AND INDICATORS

5.1 Information Sources

Data collection during the evaluation should be designed on the assumption that all evaluation questions may need to be addressed. Provision should be made to ensure that data needed to establish baseline information or track issues cover over time is available at the time of the evaluation.

Not all data collection can be developed prior. The post-activity reports and annual updates are not substitutes for the special studies which are part of the evaluation process. Evaluation will involve designing one-time surveys of applicants, experts and others to focus on specific issues, or to obtain applicants' opinions or judgement.

Questionnaires and interview guides are the most commonly used form of data collection. For these surveys to be undertaken, it will be necessary to maintain readily accessible data bases on applicants (whether accepted or rejected) by sector, TVI clients, and the target population generally. If our suggestions are followed for development of the TVI data base, this client information should be available.

Eleven different information sources will be used in the calculation of indicators for the evaluation of IITD.

<u>Information From Monitoring System</u>

- Application Form
- Application Evaluation Report
- Data Base
- Work Plan
- Post Project Reports

. Inventory of R & D in New Brunswick

Special Studies

. Survey of Applicants
. Survey of Target Population
. Interviews with Staff
. Interviews with Experts

Baseline Data

Monitoring system data has already been discussed.

Special studies and baseline data are described below.

5.1.1 Survey of Applicants

Opinions and other qualitative data needed for addressing evaluation issues will usually be collected by surveys of users of IITD. Surveys are often the only means determining whether the effects were really incremental and what the applicants behaviour would have been in the absence of IITD. The data base is designed to generate samples for the surveys and can be stratified by industry, region, size of activity, etc.

5.1.2 Survey of Target Population

Addressing issues relating to knowledge of IITD and non-use of the Sub-Agreement, will require a survey selected from the entire target population. The sample can be fairly readily identified from published lists such as the Directory of Manufacturers. The inventory of R & D performers should also be a fairly comprehensive source of information by the end of IITD.

5.1.3 Interviews with Staff

Interviews with staff involved in IITD are a key source of evaluation information. These interviews will be conducted using a structured format and primarily focussed on the administration and policy related issues or objectives.

5.1.4 Interviews with Key Informants

In several cases the opinions of key informants in the field of technology development and innovation will be required. Interviews will include:

- Task Group Chairmen;
- Evaluators and Program Managers involved with technology agreements in other provinces;
- Academics involved in technology implementation;
- Companies involved in research and development;
- Industry associations;
- Economic Council of Canada.

5.2 Baseline Data

Almost all of the data needed to establish baseline data and complete indicators from project-related data is readily available or will be included in the data base when the system enhancements discussed in Chapter 3 are implemented. Some will require post project reporting to establish, notably baseline data related to employment, sales, profitability and net worth. Thus, the post-activity reports are very important for establishing this starting point.

The inventory of R & D performers is another key source of baseline information. This inventory may be the most relevant

source of information on the state of technology usage at beginning of IITD. Annual updates will show changes over time.

A similar inventory of R & D in government is now being conducted under the leadership of the Department of Commerce and Technology. This will also serve as an effective baseline of the state of R & D in the public sector. Annual updates are proposed to give indicators of changes over the life of IITD.

5.3 Indicators

Indicators are the basic information elements used to answer evaluation questions. Ideally, indicators should be as objective as possible, computed from operating data or published sources.

In the case of ERDA Agreements where the actual achievement of results depends on third parties, more subjective measures often must be used. Indicators are, in these cases, based on more subjective measures such as frequencies of responses to survey questions, and opinions or comments of informants.

There is a wide range of potential indicators for program evaluation. Some of these will need to be computed from regular updates to data in the data base, others through special baseline data collection activities and others through the special surveys discussed earlier. Where possible, it is advantageous to use several indicators to give more confidence about the inferences drawn from the data, or to analyze a problem or issue from different perspectives or dimensions. We have identified approximately 35 different indicators for addressing the 22 evaluation questions.

The indicators and data sources are presented in Exhibit 10.

EXHIBIT 10: ISSUES INDICATORS AND INFORMATION SOURCES

RATIONALE ISSUES

Key Issues	Related Issues	Indicators	Information Source/ Methodology
Issue 1 Relevance			
Have the basic conditions supporting the establishment of IITD changed to the extent that the initiatives are no longer relevant or appropriate?	Has N.B. narrowed the gap in technological development relative to the rest of Canada?	R.1 Amount of new research and development.	2,8,9
		R.2 Key informant opinions on changes in the state of the art.	7
		R.3 R & D expenditures (Canada and U.S.).	8
Issue 2 Needs Fulfillment			
Did the initiatives fulfill real needs?	Did the response rate indicate a good fit between needs and programs?	R.4 Applications received vs. expected applications.	2,3
		R.5 Applications approved/ rejected.	2
		R.6 Changes to budgets in response to conditions.	3,6

1 = Post Activity Reports
2 = Data Base
3 = Work Plan
4 = Survey of Applicants
5 = Survey of Target Population
6 = Interviews with Staff
7 = Key Informant Interviews
8 = Published Data
9 = Inventory of R & D Performers

Key Issues	Related Issues	Indicators	Information Source/ Methodology
Issue 3 Causal Linkages			
Were activities and programs linked to the intended impacts?	Did the Task Groups effectively identify priorities?	R.7 Applicant opinions on effects.	4
		R.8 Review of task group results on funding priorities.	1,6
		R.9 TVI and New Venture Centre clientele's success.	4
		R.10 Industry follow-through on Task group priorities.	2,4
Issue 4 Technological Development Objective			
Have the initiatives contributed to the development and implementation of technology in New Brunswick?	Has there been a diversification of the industrial base?	O.1 Applications (and number) by industry.	2
		O.2 New firms created by sector.	2,4
	To what extent has IITD made firms more competitive?	O.3 New products or services.	4
		O.4 Productivity changes.	1,4
	Were new products brought into commercialization because of increased technology and/or R & D?	O.5 New markets established.	4
		O.6 Increases in sales.	2,4

1 = Post Activtiy Reports
2 = Data Base
3 = Work Plan
4 = Survey of Applicants
5 = Survey of Target Population
6 = Interviews with Staff
7 = Key Informant Interviews
8 = Published Data
9 = Inventory of R & D Performers

Key Issues	Related Issues	Indicators	Information Source/ Methodology
		O.7 Cases where new technology was needed to remain competitive.	4
		O.8 Changes in numbers of firms implementing technology.	9
		O.9 New technology investmentes leveraged by IITD.	2,4
Issue 5 ERDA Objectives		O.10 Rejected applications which proceeded anyway.	4
What was the overall impact of IITD on economic development in terms of job creation/protection, establishment of new firms, improved company profitability, return on investment?		I.1 Number of jobs.	1,2,4
		I.2 Person years of employment.	1,2,4
		I.3 Increased net worth.	4
Issue 6 Awareness of Technology		I.4 Incremental increases in sales.	4
Did IITD result in firms being generally more		I.5 New firms created by size.	1,4

1 = Post Activity Reports
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5 = Survey of Target Population
6 = Interviews with Staff
7 = Key Informant Interviews
8 = Published Data
9 = Inventory of R & D Performers

Key Issues	Related Issues	Indicators	Information Source/ Methodology
aware of the importance of and potential applications for technology in their businesses?		I.6 Profitability gains.	4
		I.7 Awareness of IITD and technology by target firms.	5,6,7,9
Issue 7 Program Delivery			
Were the programs delivered as effectively and efficiently as possible?	Was the application process timely and responsive?	A.1 Elapsed time for application approval.	2
		A.2 Applicant opinions on responsiveness.	4
	Was the target population aware of the program?	A.3 Awareness of program by non-applicants.	5
Issue 8 Program Design			
Were there better ways of meeting the objectives and intended effects?	Was the allocation of funds by initiative appropriate?	A.4 Funding disbursed by program and sub-program.	2
	Were there other initiatives or programs which could have achieved better results?	A.5 Applications rejected or held over due to lack of funding.	6

1 = Post Activity Reports
2 = Data Base
3 = Work Plan
4 = Survey of Applicants
5 = Survey of Target Population
6 = Interviews with Staff
7 = Key Informant Interviews
8 = Published Data
9 = Inventory of R & D Performers

Key Issues	Related Issues	Indicators	Information Source/ Methodology
	Was the mix of projects by type and sector appropriate and within expectations?	A.6 Comparisons to progress in other provinces.	7,8
Issue 9 Continuation of Pilot Projects		A.7 Number of applications by type and sector, compared to work plans.	2,3
Should the pilot projects be considered for on-going support?	Did TVI meet its objectives effectively and efficiently?	A.8 Size of activities.	2
	Did the New Venture Incubation Centre meet its objectives efficiently and effectively?	A.9 Complementarity or overlap with other programs.	6,7
		A.10 Special Program 2 evaluations.	1

1 = Post Activity Reports
2 = Data Base
3 = Work Plan
4 = Survey of Applicants
5 = Survey of Target Population
6 = Interviews with Staff
7 = Key Informant Interviews
8 = Published Data
9 = Inventory of R & D Performers

6.0 IMPLEMENTATION

This chapter brings together the recommendations and tasks needed to implement the monitoring and evaluation information system.

6.1 Reports

Recommendation 1: Use the quarterly reports recommended in this report effective on the third quarter of 1987/88 (i.e. December 1987).

Tasks: Obtain Management Committee approval of the reporting system and structure.

Develop data base routines to pull off required statistical reports.

Recommendation 2: Implement the post activity reporting system developed in the report.

Tasks: Establish a procedure for recipients of assistance to complete and send in an activity sign-off form when they apply for their final payment.

Prepare an instruction sheet for filling in the form.

Update the applicant file on the data base using this data.

Maintain a list of activities which will extend beyond the fiscal year. In March advise the project officer to complete interim reports on all such activities.

Maintain a list of all activities by project officer and corporate year end. Set up a calendar of reporting deadlines for annual updates, four months after year end.

These tasks will probably require at least one half-time clerical employee for planning, controlling and checking the system.

Recommendation 3: Introduce the five monitoring reports from the data base described in Exhibit 8.

Tasks: Design the output screens and protocols for producing the reports.

Circulate these reports to members of the Coordinating and Management Committees and anyone designated by them.

6.2 Enhancements to Data Systems

Recommendation 4: Make enhancements to the data base.

Tasks: Have project officers insert SIC numbers on applications.

Recommendation 5: Update the R & D performers data base no less frequently than biannually.

Tasks: Insert codes on R & D data base indicating use of IITD programs and application numbers.

Allow for cross-referencing of the R & D performers data base to the IITD data base.

6.3 TVI Data Base

Recommendation 6: Use the IITD data base as the model for TVI data collection as much as possible to ensure that the coordinator has access to similar information for reporting purposes, and can identify applicants who used other IITD programs after being assisted by the TVI.

Tasks: Modify IITD data base to suit TVI needs.

Train staff of TVI on use of the data base.

6.4 Evaluation

Recommendation 7: Assume that the 35 indicators will be the main framework for the evaluation.

Tasks: Compile necessary baseline data.

Maintain a watching brief on evaluations in other provinces and jurisdictions.

Obtain regular statistical updates from Statistics Canada.

Recommendation 8: For data collection purposes, assume that the final evaluation will be a comprehensive study involving surveys of applicants, socio-economic impact assessments, case studies of the larger activities, objective measurement of gains in productivity, technology development and increased competitiveness.

Tasks: File all activity sign off and annual update reports with other application materials for ease of file review.

Maintain evaluation files containing all annual work plans and reports (from TVI as well as departmental reports), quarterly reports and minuted comments on reports.

The amount of follow-up activity with recipients of assistance, maintaining files, collection of data and filing reports should require the equivalent of a half-time project officer. This can be carried out by incremental work for existing staff, but this approach will not result in consistent data or thorough coverage. Also, considerable clerical time will be needed.

Recommendation 9: Engage a half-time project officer and clerical support staff for evaluation and monitoring activities.

Tasks: Engage project officer.

Engage clerical support staff.

6.5 Financial Resources

Implementing the monitoring and evaluation system will require $184,000 in funding from IITD, as broken down in Exhibit 9.

EXHIBIT 9: COSTS OF IMPLEMENTING MONITORING & EVALUATION SYSTEM

	Annual Person-Years (New staff)	Sub-Agreement Funding Required	Annual or One-Time
. Clerical control & maintenance of monitoring system	0.5	$ 8,000	Annual
. Project officer involvement in annual checks	400 hours/ year (one hour/ application/ year)		Annual
. Preparation of quarterly reports	320 hours/ yr (2 weeks/ quarter)	$25,000	Annual
. Design TVI data base	80 hours		One-time
. Preparation of instruction, covering letters & staff training	100 hours		One-time
. Translation, printing of reports, instructions		2,000	One-time
. Evaluation (assuming contracting out)		75,000	One-time
TOTAL COST	1987/88	$10,000	
	1988/89	$33,000	
	1989/90	$33,000	
	1990/91	$108,000	

APPENDIX A

PERSONS INTERVIEWED

APPENDIX A
PERSONS INTERVIEWED

Nora Kelly, Implementation Officer, Sub-Agreement Implementation, Department of Regional Industrial Expansion.

Herb Shephard, Manager, Sub-Agreement Implementation, Department of Regional Industrial Expansion.

Paul Blackmore, Coordinator, Federal/Provincial Agreements, Community Improvement Corporation.

Ken Scott, General Manager, Community Improvement Corporation.

Gary Dingledine, Director, Federal/Provincial Agreements, Ministry of State for Science and Technology.

Bill Paterson, Director, Science and Technology, Department of Commerce and Technology.

John Adams, Director, Industry Services, Department of Commerce and Technology.

Stephen Battah, Science and Technology Agreement Planner, Department of Commerce and Technology.

Daniel Clark, Coordinator - New Initiatives, Department of Commerce and Technology.

Gary Jochelman, Federal/Provincial Agreement Coordinator, Department of Commerce and Technology.

Stephen Wheatley, Executive Director, Science and Technology Secretariat.

Gary Fraser, Systems Coordinator, Department of Commerce and Technology.

Heather Scott, Reporting Systems Administrative Officer, Department of Commerce and Technology.

Jackie Cleveland, Reporting Systems Administrative Officer, Department of Commerce and Technology.

APPENDIX B

ELIGIBILITY CRITERIA

Note: Travel Allowances for all programs have recently been revised. The following allowances are in effect for all programs of IITD.

Discussion

The Coordinating Committee recommended a per diem allowance be established for those programs with travel as an eligible cost. The following has been recommended:

- $150 per day for foreign travel
- $100 per day in Canada
- 50 percent of travel costs (i.e. transportation)
- Individuals travelling and position in the company be identified
- Proof of travel, ex. airplane ticket, hotel bill, is required.

Decision

The federal member of the Coordinating Committee will draw up the new procedures reflecting the approved recommendations as outlined above.

PROGRAM 1: STRATEGIC TECHNOLOGY SUPPORT

(1) Objective

To support and strengthen strategic technology resources and capability, and to enhance technology transfer in the province as a means of stimulating economic growth.

(2) Sub-Programs

This program contains three Sub-programs:
1.1 Opportunity Identification and Priorization
1.2 Public Sector Sponsored Applied R&D
1.3 Applied Technology Infrastructure

1.1 Opportunity Identification and Priorization

Objective

To assist in identifying and priorizing key technology strengths and opportunities and in determining the most appropriate means and levels of public sector support.

(a) Eligible Applicants

The Parties to the Sub-agreement.

(b) Eligible Activities

The Sub-program provides for the establishment of Task Groups in order to undertake the identification, assessment and priorization of strategic areas for development and assistance.

Management Committee may provide for the contracting of an arms length consultant for the purpose of undertaking the identification and assessment of strategic areas for development and assistance if deemed more appropriate than establishing task groups.

Some industrial activities eligible for involving Task Group could be:
- manufacturing and management technology development;
- forestry and forest products development;
- minerals and materials technology development;
- fisheries, food and aquaculture technology development;
- biotechnology; and,
- other.

(c) Process and Function

(i) Task Group Implementation Committee

A Task Group Implementation Committee comprised of representatives from the federal and provincial governments, co-chaired by a federal and provincial member, will be established to provide advice to Management Committee on the designation of Task Groups and to carry out the decisions and directions of Management Committee.

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Through an annual work plan, the Implementation Committee will recommend to Management Committee the areas requiring Task Group formulation and will propose an identification of a Task Group chairperson and members from the private sector, industrial groups and associations, academia, crown corporations and government. The Implementation Committee will provide Management Committee with a draft Terms of Reference for the proposed Task Group. Upon Management Committee's approval of the proposed activity, the Task Group will have responsibility for finalizing the Terms of Reference and preparing its action plan.

(ii) Task Group Responsibilities/Duties and Functions

The Task Group will:

- prepare and finalize the Terms of Reference for the conduct and guidance of its work.
- report on the progress and conclusion of its work.
- prepare analysis, summaries, findings, conclusions and recommendations.
- perform other duties and functions as requested by Management Committee.

Recommendations emerging from the Task Group should address an action plan for specific strategic technologies and where appropriate, funding options and mechanisms.

(d) Eligible Costs

The following costs incurred by the Task Group (excluding public servants):

- travel, meals, accommodation and incidental expenses (to the maximum permitted by provincial government travel regulations).
- administrative costs such as telephone, typing, translation and rental of meeting rooms.
- consultant services providing that:
  the nature of the services and the identity of the consultant are set out in a statement of work approved by Management Committee; the costs are reasonable, and the choice of consultant is based on a review of more than one proposal.
- other costs as approved by Management Committee.
- honorarium for Task group participants.

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(e) Level of Assistance

100% of eligible costs.
Honorariums of $150 per day.

1.2 Public Sector Sponsored Applied R&D

Objective

To fund research and development in applied science and technology which builds on the province's technological strengths.

(a) Eligible Applicants

Provincial and federal government R&D performers or universities potentially involving private sector R&D performers, associations, cooperatives or other organizations; and, individuals.

(b) Eligible Activities

- Initiatives involving applied research and development primarily of a public interest nature. Details and results of any funded initiative will be made available in a public report.

- Initiatives resulting from the recommendations of Task Groups and/or consultants under the Opportunities, Identification and Priorization Sub-program.

- Initiatives as presented by Management Committee.

- Initiatives involving a collaboration of public and private efforts and resources.

(c) Eligible Costs

Eligible costs include:
- consultant cost;

- computer programming and user costs;

- direct equipment and material costs - lease and purchase; design and tooling costs;

- direct labour costs associated with the initiative;

- patent costs;

- space rental;

- project related travel, as per provincial government travel regulations;

- other costs as approved by Management Committee.

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(d) Level of Assistance

Up to 100% of eligible costs.

(e) Other Conditions

Should other government assistance be contributed or granted to the initiative, financial assistance under this Sub-program would be considered only complementary support. Total government funding, regardless of source, must not exceed the total eligible costs of the initiative.

The applicant must provide a research plan.

1.3 Applied Technology Infrastructure

Objective

To build in-province capacity to undertake applied R&D and to facilitate technology transfer through the provision of funding to applied technology organizations. To develop applied R&D capabilities within New Brunswick in strategic high-technology fields.

(a) Eligible Applicants

Private sector R&D performers and organizations engaged in applied technology. Such organizations include universities, RPC, CADMI, MTC, PEAT Research and Development Center and others as determined by Management Committee.

(b) Eligible Activities

Initiatives undertaken in this Sub-program may result from the recommendations and work efforts of the Task Groups engaged in the Opportunities Identification and Priorization Sub-program. Initiatives will enhance the in-province capacity to undertake applied R&D and to facilitate technology transfer.

(c) Eligible Costs

Eligible costs include:

- staff (professional and technical) and supervision - wages and salaries directly related to the initiative;
- equipment and materials - lease and purchase; design and tooling costs;
- computer software - lease/purchase;
- computer hardware and systems - lease/purchase;
- space rental and building.
- other costs as approved by the Management Committee

(d) Level of Assistance

Up to 90% of eligible costs,unless otherwise determined by Management Committee.

(e) Other Conditions

Should other government assistance be contributed or granted to the initiative, financial assistance under this Sub-program would be considered as complementary support. Total government funding, regardless of source, must not exceed the total eligible costs of the initiative.

../8

Program 2: Innovation Climate

(1) Objective

To support the creation of a climate which encourages entrepreneurship and innovation and stimulates technology development and application within New Brunswick.

(2) Sub-Programs

This program contains three sub-programs:

1) Technology Venture Initiative
2) New Venture Incubation Centre
3) Technology Information Transfer

Objective

The objective of the first initiative which includes the Technology Venture Initiative and the New Venture Incubation Centre is to improve the climate for innovation within New Brunswick by providing a packaged service to help business firms establish, launch new ideas, and better access a range of seed and venture capital sources.

(1) Technology Venture Initiative

Objective:

To serve as a focal point to marshall public, institutional and private sector resources to support entrepreneurs and innovators in commercialization of new technologies and products.

(a) Eligible Applicants

Person(s) who are in the process of establishing a technology based firm.

(b) Eligible Activities

Those activities required to establish a technology based firm. The TVI will assist in activities such as establishing a business plan, securing venture capital, defining markets and establishing links with experts in the field.

(c) Eligible Costs

The costs incurred by the TVI will be funded by the Agreement. These costs will include salaries for a Director and three other staff members with expertise in the areas of technology, marketing and finance as well as secretarial support and the cost of maintaining office space. The users of the TVI will receive technical assistance.

(2) New Venture Incubation Centre

Objective:

To provide assistance to new technology-based start-up firms through shared services in a common facility.

(a) Eligible Applicants

Invitations to submit a proposal to establish the New Venture Incubation Centre were sent to three organizations in Fredericton and two organizations in Moncton. One pilot Centre will be approved. Applicants for the Centre itself will be new technology based firms and will apply to the Manager of the Centre and will be approved by the directing board of the Centre.

(b) Eligible Activities

New technology based firms in New Brunswick will be provided assistance in the form of shared services in a common facility. The shared facilities will include telex, bookkeeping, computer support, secretarial support, meeting rooms etc.

(c) Eligible Costs

The Centre will be maintained by funds from the Agreement and will pay for the costs incurred to maintain shared services in the areas of bookkeeping, computer support, telex, secretarial support, meeting rooms etc.

(3) Technology Information Transfer

Objective:

To improve technology monitoring, forecasting and networking within the province so that all parties have better access to current scientific and technological information.

(a) Eligible Applicants

Any person, organization, or firm that meets the objectives of the Technology Information Transfer initiative as set forth by the Province.

(b) Eligible Activities

Activities that relate to the coordination and implementation of the transfer of technology in New Brunswick.

(c) Eligible Costs

Costs incurred to establish the transfer of technology in New Brunswick.

Program 3: Direct Support to the Private Sector

(1) Objective

To encourage private sector efforts towards research and development and towards adoption of best-practice technologies.

(2) Sub-Programs

This program contains two Sub-programs:

3.1 Complementary Financial Support.
3.2 Technical Audits, Entrepreneurial Visits and Studies.

3.1 Complementary Financial Assistance

Objective

To increase the level of applied research and development, the number of new inventions which will become commercially exploited and the number of technology-based industries in New Brunswick.

3.1 (1) Development Capital

Objective:

To alleviate shortages of funds necessary to launch or continue an eligible research and development project by the provision of repayable interest-free contributions.

(a) Eligible Applicant:

Firms and entrepreneurs engaged in or about to become engaged in advanced technology activity within New Brunswick.

(b) Eligible Activities:

- Design, development or demonstration of new or improved products or advanced technology production processes which are technically feasible and offer reasonable prospects for commercialization.

- The initiative must represent an important contribution to the firm's growth and development.

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(c) Eligible Costs

Operating and capital costs directly attributable to the authorized project.

A business plan is required.

(d) Level of Assistance

To the level deemed necessary for the successful completion of the initiative by the provision of repayable interest-free contributions.

(e) Repayment

Repayment of the interest free contribution will be from sales income derived from the product or process and will be calculated at 5% of gross annual sales until the contribution is repaid.

3.1 (2) Demonstration Project

Objective

To assist in the demonstration of a new or improved project/process once technical feasibility has been determined and a prototype developed.

(a) Eligible Applicant

Private sector firms and entrepreneurs engaged in or about to become engaged in advanced technology activity.

(b) Eligible Activities

Demonstration of new or improved products or advanced technology production processes, to potential investors, producers, users.

(c) Eligible Costs

Operating costs directly attributable to the authorized project.

(d) Level of Assistance

To a maximum of 50% of eligible costs unless determined otherwise by the Management Committee. Assistance is in the form of a non-repayable contribution.

.../10

3.1 (3) First User Risk Reduction

Objective:

To introduce new market ready products or processes produced/developed in New Brunswick and being presented to a first user who perceives a significant risk in its adoption.

(a) Eligible Applicants

Private sector firms and entrepreneurs engaged in advanced technology activity and introducing a new product to a first user.

(b) Eligible Activities

The one-time sale to a first user of a new product or process. The product or process must:

(1) be a new or significantly improved advanced technology.

(2) be developed and manufactured in New Brunswick.

(3) have a significant potential market.

The market must be demonstrably reluctant to use the new or improved product/process without the assistance.

The user must be at arm's length from the producer.

A marketing plan demonstrating the market potential is required.

The first user must allow the producer reasonable access to the product for up to one year (ex. for performance demonstration etc.)

The producer and first user must be prepared to demonstrate new and improved features of the product (some new element of technological advance).

(c) Eligible Costs

Any reasonable cost to encourage a sale and reduce first user risk.

Costs attributable to extraordinary services and on-site assistance of the first user application that would not necessarily be borne by the user.

(d) Level of Assistance

To a maximum 50% of the eligible costs unless otherwise determined by Management Committee. Assistance is in the form of a non-repayable contribution.

.../11

3.1 (4) R&D Investment

Objective:

To encourage applied R&D, prototype development, start-ups, expansion or modernization involving new or improved products, processes or services in the field of advanced technology.

(a) Eligible Applicants

Private sector firms and entrepreneurs engaged in or about to become engaged in advanced technology activity.

(b) Eligible Activities

- Applied R&D
- prototype development
- establishment, modernization or expansion of manufacturing and processing firms or firms providing a service to industry, as a result of a new or improved product, process, or service, in the field of advanced technology.

(c) Eligible Costs

Those costs directly attributable to eligible activities that are otherwise ineligible under other federal and provincial programs.

(d) Level of Assistance

Assistance is a non-repayable contribution.

First	$10,000	-	90%
Next	$15,000	-	75%
Over	$25,000	-	50%

Should an initiative be eligible for consideration under some other government program, assistance cannot be offered from this Sub-agreement until the availability of other government assistance has been determined by the applicant.

.../12

3.2 Technical Audits, Entrepreneurial Visits and Studies

Objective:

To assist private firms, entrepreneurs and industry associations identify and assess appropriate or best-practice technologies for installation in their operations.

(a) Eligible Applicants

Private sector firms, entrepreneurs, industry associations, engaged in or about to become engaged in advanced technology activity.

(b) Eligible Activities

- technical audits and/or studies which identify, assess and recommend new or best-practice technologies for adoption by the eligible applicant;
- missions and visits to places where new or best-practice technologies are currently being used or demonstrated such as industrial shows, plant sites and/or seminars; or,
- seminars and demonstration projects occurring within New Brunswick in which experts are invited to attend and contribute their technical knowledge.

(c) Eligible Costs

Eligible costs include:

- reasonable costs of consultant services;
- travel, meals, accommodation and incidental expenses (to the maximum permitted by provincial government travel regulations);
- admissions, fees and other related expenses of seminars, missions and visits.

(d) Level of Assistance

50% of eligible costs.

3.3 Contract Staff

The hiring of contract staff, including related direct expenses, as determined by Management Committee as essential to assist in the delivery of the Agreement.

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PROGRAM 4: PLANNING, COORDINATION AND IMPLEMENTATION

Objective

To provide funding for the planning, coordination and implementation of the Sub-agreement, and for public sector planning and feasibility studies in support of initiatives under this Sub-agreement.

4.1 Administration

(a) Eligible Applicant

Parties to the Agreement

(b) Eligible Activities

- Public Information
- Evaluation
- Audit
- Other administrative costs associated with this Sub-agreement as determined by Management Committee.

(c) Eligible Costs

Any reasonable costs associated with the above-mentioned eligible activities as approved by Management Committee.

(d) Level of Assistance

100%

4.2 Planning and Feasibility Studies

(a) Eligible Applicants

Parties to the Agreement.

(b) Eligible Activities

- formulation of plans and studies to determine the socio-economic impact of technological change; to assess the climate for technological innovation in New Brunswick; to assess the effects of technological change on the work force of New Brunswick; other investigative studies and plans covering sectoral issues relating to technology and innovation.

- feasibility studies and investigations in support of initiatives under this Sub-agreement.

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(c) Eligible Costs

Consultant costs as described in Subprogram 1.1, Opportunity Identification and Priorization.

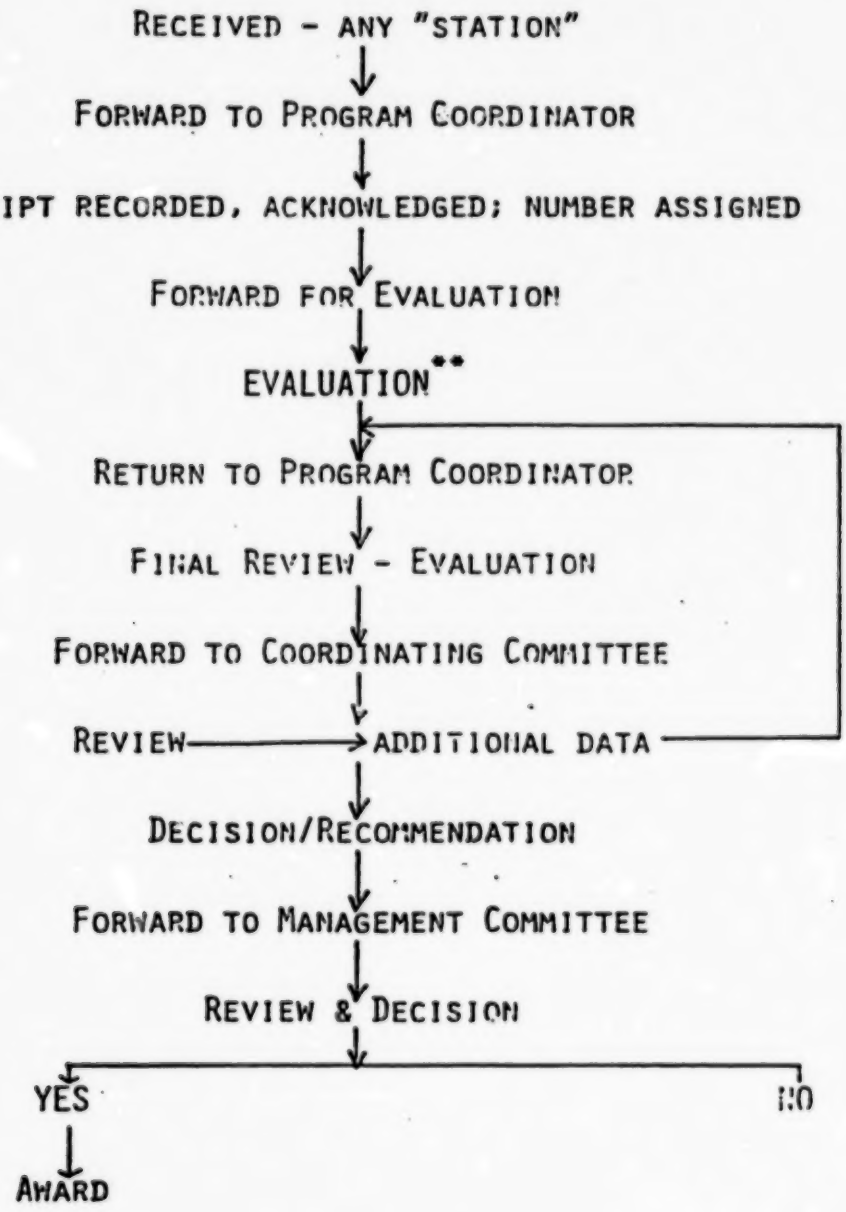
(d) Level of Assistance

100% of eligible costs.

APPENDIX C

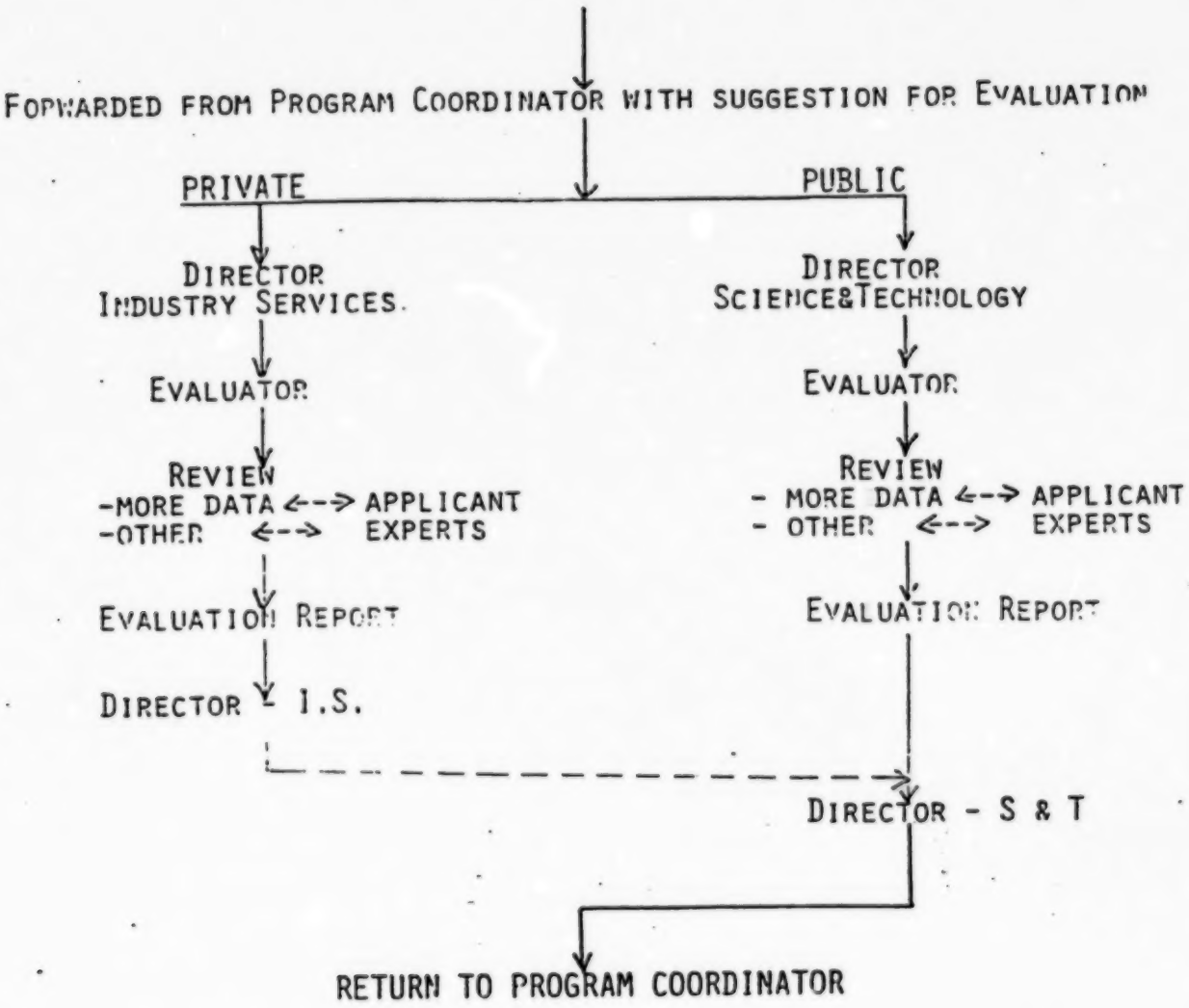
FLOW CHART

FLOW CHART - INNOVATION SUB-AGREEMENT APPLICATIONS:



**SEE SHEET II

EVALUATION FLOW CHART - INNOVATION SUB-AGREEMENT APPLICATIONS



APPENDIX D

APPLICATION FORM

Government of Canada / Gouvernement du Canada

Government of New Brunswick / Gouvernement du Nouveau-Brunswick

Project Number

Application for Assistance Under the Canada/New Brunswick Industrial Innovation and Technology Development Subsidiary Agreement

Instructions to the Applicant

- Answer questions completely and provide appropriate attachments. The completeness of information will expedite the decision on your application.
- Submit a completed original application to: Program Coordinator, Department of Commerce & Technology, P.O. Box 6000, Fredericton, N.B. E3B 5H1. Retain a copy for your records.
- After receipt of your application, the officer assigned to your project may request additional information, including financial statements.
- All information provided is kept confidential and is not subject to disclosure under the Access to Information Act.

(1) **Identify Sub-Program Applied For**

Program 1

- (1) Public Sector Sponsored Applied R&D ☐
- (2) Applied Technology Infrastructure ☐

Program 3

- (1) Development Capital ☐
- (2) Demonstration Project ☐
- (3) First-User Risk Reduction ☐
- (4) R&D Investment ☐
- (5) Technical Audits, Entrepreneurial Visits and Studies ☐

(2) Legal Name of Applicant

Address:

Operating Name if different from above

(3) Contact Person and Title

Area Code & Telephone Number

(4) Form of Organization

☐ Limited Company ☐ Partnership ☐ Sole Proprietorship ☐ Cooperative ☐ Other (Specify)

☐ University ☐ Institute ☐ Non-Profit Organization ☐ Crown Corporation

(5) Name of Parent Company (if applicable)

(6) Type of Operation

☐ Manufacturing or Processing ☐ Service Operation ☐ Research

☐ Educational ☐ Other (Specify)

(7) History and description of business including products produced or services rendered.

(8) Employment:

(a) Applicant's average level of employment in Canada over the last year _____

(b) Estimated number of permanent jobs to be created by the project _____

(c) Estimated number of permanent jobs to be maintained by the project _____

(9) Location of project or activity:

(10) Description of project:

(11) Describe in detail the new element of technological advance of the product or process.

(12) Describe the economic benefits to your organization and to New Brunswick.

(13) Describe efforts to obtain other government (federal, provincial, municipal) funding for this project and specify any other government assistance expected or received for this project.

SOURCE	TYPE	AMOUNT

(14) Have you made any commitments for this project?

☐ No ☐ Yes (provide details)

(15) Current Sales Level $_____

* Present Net Worth $_____

* Equity plus subordinated shareholders loans.

(16) **Estimated Project Funding**

a) **Capital Costs**

Land	$_____	
Land improvements	$_____	
Building and structures	$_____	
Machinery and equipment	$_____	
Working capital	$_____	
Other fixed assets (specify)	$_____	
TOTAL		$_____

b) **R&D Costs**

Consultant cost	$_____	
Material and special equipment for R&D	$_____	
Sub-contracting for R&D	$_____	
Patent costs	$_____	
TOTAL		$_____

c) **Operating Costs**

Space rental	$_____	
Equipment leasing	$_____	
Computer related costs	$_____	
Direct labour	$_____	
Marketing costs	$_____	
Materials cost	$_____	
Other (specify)	$_____	
TOTAL		$_____
TOTAL COSTS		$_____

Financing of Project

Sub-agreement assistance	$_____	
Other sources of funding (specify)	$_____	
Existing working capital	$_____	
Long term loans	$_____	
Short term loans	$_____	
Additional equity	$_____	
Other (specify)	$_____	
TOTAL		$_____
TOTAL FUNDING		$_____

(17) Please provide the following:

Program 1 (1) — Public Sector Sponsored Applied R&D — Multi-year research plan
Program 3 — Business plan including financial projections and market plan
Program 3 (3) — First-User Risk Reduction — Explanation of why first-user needs the assistance

(18) Official language preference for correspondence English ☐ French ☐

Declaration of Applicant

To the Minister of Commerce and Technology

(a) The information given in this application is, to the best of the applicant's (my) knowledge and ability, complete, true and correct.
(b) The Applicant certifies (I certify) that financial assistance from the Department of Commerce and Technology is a significant factor in the decision to proceed with this project.
(c) The Applicant (I) will provide all information required by the Department of Commerce and Technology to complete the assessment of this project.

_____ _____

Name and Title of Authorized Official Signature of Authorized Official

Signed at_____ this_____ day of_____ 19_____

APPENDIX E

APPLICATION EVALUATION REPORT

PROJECT NO. _____

Program Applied For: _____

INDUSTRIAL INNOVATION AND TECHNOLOGY DEVELOPMENT SUB-AGREEMENT
APPLICATION EVALUATION REPORT

Company Name: _____ Evaluation Officer: _____

Type of Business: _____ Recommendation: _____

_____ Amount: _____

Street: _____ Year/Month/Day:

City: _____ Date of Application: _____

Principal: _____ Date Received: _____

Telephone: _____

Employees: Sufficient Info Received: _____

Existing: _____ Evaluation Completed: _____

Maintained or
Created by Project: _____

Start of Initiative: _____

Sales
Present
Annual Sales: $ _____ Net Worth: $ _____ Completion of Initiative: _____

Projected Increase
over 3 years: _____

Background of Company: _____

Summary of Proposed Initiative:

Anticipated Results:

TOTAL FUNDING REQUESTED: $ _____

ESTIMATED COST OF PROJECT (As Presented ___) (Revised ___)	TOTAL COST	AMOUNT INELIGIBLE	AMOUNT ELIGIBLE	AGREEMENT SHARE
_____	$ _____	$ _____	$ _____	$ _____
_____	$ _____	$ _____	$ _____	$ _____
_____	$ _____	$ _____	$ _____	$ _____

PROJECT FINANCING:

		OTHER GOVERNMENT ASSISTANCE (This Project) Type:	Amount:
Sub-Agreement Assistance	$ _____		
Other Gov. Assistance*	$ _____	_____	$ _____
Existing Working Capital	$ _____	_____	$ _____
Long Term Loan	$ _____	_____	$ _____
Short Term Loan	$ _____	_____	$ _____
Additional Equity	$ _____	(Previously)	
Other	$ _____		$ _____

PROJECT STAGING:	1986/87	1987/88	1988/89	1989/90	1990/91
Total Costs	0	0	0	0	0
Agreement Share	0	0	0	0	0

Management Issues:

1) Business Plan:

2) Capability:

3) Other:

Financial Issues:

1) Financial Capacity:

2) Reasonableness of Estimates:

3) Cost Eligibility:

4) Other:

Market Issues:

1) Market Plan:

2) Commercialization Potential:

3) Other:

Technical and Other Strategic Factors:

1) Technical Capacity:

2) Technical Risk/Originality:

3) Technical Search:

4) Private Sector Participation:

5) Other:

CONSULTATION: DRIE -

NRC -

OTHER -

OPPORTUNITIES FOR OTHER PROGRAM FINANCING:

SUMMARY/CONCLUSIONS:

Strong Points-

Weak Points-

Overall Project Desirability:

1) Applicant:

2) Province:

RECOMMENDATION: (with any conditions and rationale for adjustments)

RECOMMENDED AGREEMENT ASSISTANCE:

Total Recommended Funding: $ _____

86-87 $ _____ 1987-88 $ _____ 1988-89 $ _____ 1989-90 $ _____ 1990-91 $ _____ 1991-92 $ _____

_____ DATE

_____ EVALUATION OFFICER

Department of Commerce and Technology
Province of New Brunswick

APPENDIX F

QUESTIONNAIRE SENT TO R & D PERFORMERS

PRIVATE SECTOR R&D SURVEY QUESTIONNAIRE

General Information

The objectives of this survey are, in a fairly broad sense, to:

- identify the private sector companies that have R&D experience and/or capability;
- catalogue the fields of R&D, and the areas of expertise, of these respective companies;
- develop an inventory of the human resources within these companies;
- develop listings of the facilities and equipment possessed by these companies.

Within these guidelines, our questions are limited to topics suitable for public dissemination. We do not wish to acquire any information of a proprietary nature, nor will we analyze or comment upon the quality of R&D work or the ability of individual companies to undertake it. Before any information is made public or utilized in any way, all respondents will have the opportunity to scrutinize and, if necessary, to edit or amend the data that has been compiled.

R&D activities will be catalogued under the general format of the 1980 SIC Manufacturing Codes. While this is not an ideal system, it will allow us to compile and store data in an easily- retrievable form, and to relate R&D activities to their applicable industrial sectors.

You may recently have completed an R&D questionnaire for Statistics Canada. If so, and if it would be convenient for you, you may use your responses to that questionnaire to assist in completing the relevant parts of ours. Please remember, however, that StatsCan keeps its information confidential, while we plan to publish the appropriate parts of the data that we compile.

SECTION A - GENERAL QUESTIONS

1. Company Name .....

2. Address .....
.....
.....

3. Telephone .....

4. Telex .....

5. FAX .....

6. Contact Person ..... Title .....

7. Year Incorporated/Founded .....

8. Sole Proprietorship __ Division __
Partnership __ Subsidiary __
Corporation __ Other .....

9. Name/Address of Parent Company (if applicable)
.....
.....
.....

10. Location of R&D Activity (if different than above)
.....
.....

11. Approximate annual volume of business
__ under $500,000 __ $2 - 5 million
__ $500,000 - $2 million __ over $5 million

12. Purpose of R&D
(a) __ We are a consulting company, and perform R&D for clients
(b) __ We are a manufacturing/processing/service business and perform R&D for our internal purposes only
(c) __ We perform R&D both for external clients and for our internal purposes.

13. For companies that checked 12(b) or (c) above, please indicate your approximate annual expenditure on R&D
$_____ or _____% of gross sales.

14. Number of employees(total) _____
Number directly involved in R&D _____

15. R&D/Scientific/Technical Association memberships held
.....
.....
.....

SECTION B - PROFILE OF RESEARCH AND DEVELOPMENT ACTIVITY

To construct a coherent database, we need to know (a) what type of company you are, (b) in what scientific or technological areas you perform R&D, and (c) to what business/industrial sector your R&D applies. Appendices I and II attached will provide assistance in answering questions 16 to 20.

16. If your company is a manufacturer or processor that performs R&D exclusively or primarily for internal purposes, please pick from Appendix I (1980 SIC Codes) the code or codes that best describes your business.

    _____

    _____

17. If you perform R&D primarily or exclusively on a consulting basis, please pick from Appendix I the sector or sectors to which your R&D applies. If more than one sector is selected, please rank them in order of volume:

    (a) _____: _____% of R&D activity
    (b) _____: _____% of R&D activity
    (c) _____: _____% of R&D activity

18. Subject again to confidentiality,please list your R&D personnel and provide details of their education, training, and experience. Include technicians and skilled tradespeople if applicable. Attach separate pages if necessary.

19. Please list the laboratory facilities, prototype fabrication equipment, testing equipment, computers, etc. that your company uses or has available for R&D purposes. Please be as specific as possible - include, for example, the make and model of equipment and (if relevant) the software and peripherals available to your computers. Attach separate pages if necessary.

20(a). From the list of scientific/technological R&D areas attached as Appendix II, please pick that (or those) which best describe the type of Research and Development activity that your company performs.

_____

_____

(b) Please provide a brief written description of this R&D activity. Include, if applicable, the standards (CSA, ASME, ASTM, CWB, etc.) that you are certified to or typically work to. Attach separate pages if necessary.

21. Describe briefly any R&D activity that your company contracts or sub-contracts to others. Please indicate if any such contracting or sub-contracting is to companies outside of New Brunswick.

22. Please list any products or services that your company has available for licensing or joint venture.

23. Please list any products or services for which your company would like to acquire licenses or joint ventures.

24. Are any patents held by your company or your employees? Are any patent applications pending? If so, please list and briefly describe.

Appendix I

EXPLANATION OF 1980 S.I.C. CODE FOR NEW BRUNSWICK MANUFACTURERS

Plants are coded according to the major product they produce

MAJOR GROUP 10 — FOOD INDUSTRIES

1011 Meat and Meat Products Industry (Except Poultry)
1012 Poultry Products Industry
1021 Fish Products Industry
1031 Canned and Preserved Fruit and Vegetable Industry
1032 Frozen Fruit and Vegetable Industry
1041 Fluid Milk Industry
1049 Other Dairy Products Industries
1051 Cereal Grain Flour Industry
1052 Prepared Flour Mixes and Prepared Cereal Foods Industry
1053 Feed Industry
1061 Vegetable Oil Mills (Except Corn Oil)
1071 Biscuit Industry
1072 Bread and Other Bakery Products Industry
1081 Cane and Beet Sugar Industry
1082 Chewing Gum Industry
1083 Sugar and Chocolate Confectionery Industry
1091 Tea and Coffee Industry
1092 Dry Pasta Products Industry
1093 Potato Chip, Pretzel and Popcorn Industry
1094 Malt and Malt Flour Industry
1099 Other Food Products Industries N.E.C.

MAJOR GROUP 11 — BEVERAGE INDUSTRIES

1111 Soft Drink Industry
1121 Distillery Products Industry
1131 Brewery Products Industry
1141 Wine Industry

MAJOR GROUP 12 — TOBACCO PRODUCTS INDUSTRIES

1211 Leaf Tobacco Industry
1221 Tobacco Products Industry

MAJOR GROUP 15 — RUBBER PRODUCTS INDUSTRIES

1511 Tire and Tube Industry
1521 Rubber Hose and Belting Industry
1599 Other Rubber Products Industries

MAJOR GROUP 16 — PLASTIC PRODUCTS INDUSTRIES

1611 Foamed and Expanded Plastic Products Industry
1621 Plastic Pipe and Pipe Fittings Industry
1631 Plastic Film and Sheeting Industry
1691 Plastic Bag Industry
1699 Other Plastic Products Industries N.E.C.

MAJOR GROUP 17 — LEATHER AND ALLIED PRODUCTS INDUSTRIES

1711 Leather Tanneries
1712 Footwear Industry
1713 Luggage, Purse and Handbag Industry
1719 Other Leather and Allied Products Industries

MAJOR GROUP 18 — PRIMARY TEXTILE INDUSTRIES

1811 Man-Made Fibre and Filament Yarn Industry
1821 Wool Yarn and Woven Cloth Industry
1829 Other Spun Yarn and Woven Cloth Industries
1831 Broad Knitted Fabric Industry

MAJOR GROUP 19 — TEXTILE PRODUCTS INDUSTRIES

1911 Natural Fibres Processing and Felt Products Industry
1921 Carpet, Mat and Rug Industry
1931 Canvas and Related Products Industry
1991 Narrow Fabric Industry
1992 Contract Textile Dyeing and Finishing Industry
1993 Household Products of Textile Materials Industry
1994 Hygiene Products of Textile Materials Industry
1995 Tire Cord Fabric Industry
1999 Other Textile Products Industries N.E.C.

MAJOR GROUP 24 — CLOTHING INDUSTRIES

2431 Men's and Boys' Coat Industry
2432 Men's and Boys' Suit and Jacket Industry
2433 Men's and Boys' Pants Industry
2434 Men's and Boys' Shirt and Underwear Industry
2435 Men's and Boys' Clothing Contractors

2441 Women's Coat and Jacket Industry
2442 Women's Sportswear Industry
2443 Women's Dress Industry
2444 Women's Blouse and Shirt Industry
2445 Women's Clothing Contractors

2451 Children's Clothing Industry

2491 Sweater Industry
2492 Occupational Clothing Industry
2493 Glove Industry
2494 Hosiery Industry
2495 Fur Goods Industry
2496 Foundation Garment Industry
2499 Other Clothing and Apparel Industries N.E.C.

MAJOR GROUP 25 — WOOD INDUSTRIES

2511 Shingle and Shake Industry
2512 Sawmill and Planing Mill Products Industry (Except Shingles & Shakes)
2521 Hardwood Veneer and Plywood Industry
2522 Softwood Veneer and Plywood Industry
2541 Prefabricated Wooden Buildings Industry
2542 Wooden Kitchen Cabinet and Bathroom Vanity Industry
2543 Wooden Door and Window Industry
2549 Other Millwork Industries
2561 Wooden Box and Pallet Industry
2581 Coffin and Casket Industry
2591 Wood Preservation Industry
2592 Particle Board Industry
2593 Wafer Board Industry
2599 Other Wood Industries N.E.C.

MAJOR GROUP 26 — FURNITURE AND FIXTURE INDUSTRIES

2611 Wooden Household Furniture Industry
2612 Upholstered Household Furniture Industry
2619 Other Household Furniture Industries
2641 Metal Office Furniture Industry
2649 Other Office Furniture Industries
2691 Bed Spring and Mattress Industry
2692 Hotel, Restaurant and Institutional Furniture & Fixture Industry
2699 Other Furniture and Fixture Industries N.E.C.

MAJOR GROUP 27 — PAPER AND ALLIED PRODUCTS INDUSTRIES

2711 Pulp Industry
2712 Newsprint Industry
2713 Paperboard Industry
2714 Building Board Industry
2719 Other Paper Industries
2721 Asphalt Roofing Industry
2731 Folding Carton and Set-up Box Industry
2732 Corrugated Box Industry
2733 Paper Bag Industry
2791 Coated and Treated Paper Industry
2792 Stationery Paper Products Industry
2793 Paper Consumer Products Industry
2799 Other Converted Paper Products Industries N.E.C.

MAJOR GROUP 28 — PRINTING, PUBLISHING AND ALLIED INDUSTRIES

2811 Business Forms Printing Industry
2819 Other Commercial Printing Industries
2821 Platemaking, Typesetting and Bindery Industry
2831 Book Publishing Industry
2839 Other Publishing Industries
2841 Newspaper, Magazine and Periodical (Combined Publishing & Printing) Industry
2849 Other Combined Publishing and Printing Industries

MAJOR GROUP 29 — PRIMARY METAL INDUSTRIES

911 Ferro-Alloys Industry
2912 Steel Foundries
2919 Other Primary Steel Industries
2921 Steel Pipe and Tube Industry
2941 Iron Foundries
2951 Primary Production of Aluminum Industry
2959 Other Primary Smelting & Refining of Non-Ferrous Metal Industries
2961 Aluminum Rolling, Casting and Extruding Industry
2971 Copper and Copper Alloy Rolling, Casting and Extruding Industry
2999 Other Rolled, Cast and Extruded Non-Ferrous Metal Products Industries

APPENDIX 1

MAJOR GROUP 30 — FABRICATED METAL PRODUCTS INDUSTRIES (EXCEPT MACHINERY AND TRANSPORTATION EQUIPMENT INDUSTRIES)

3011 Power Boiler and Heat Exchanger Industry
3021 Metal Tanks (Heavy Gauge) Industry
3022 Plate Work Industry
3023 Pre-Engineered Metal Buildings Industry (Exc. Portable)
3029 Other Fabricated Structural Metal Products Industries
3031 Metal Door and Window Industry
3032 Prefabricated Portable Metal Buildings Industry
3039 Other Ornamental and Architectural Metal Products Industries
3041 Custom Coating of Metal Products Industry
3042 Metal Closure and Container Industry
3049 Other Stamped and Pressed Metal Products Industries
3051 Upholstery and Coil Spring Industry
3052 Wire and Wire Rope Industry
3053 Industrial Fastener Industry
3059 Other Wire Products Industries
3061 Basic Hardware Industry
3062 Metal Dies, Moulds and Patterns Industry
3083 Hand Tool and Implement Industry
3089 Other Hardware and Cutlery Industries
3071 Heating Equipment Industry
3081 Machine Shop Industry
3091 Metal Plumbing Fixtures and Fittings Industry
3092 Metal Valve Industry
3099 Other Metal Fabricating Industries N.E.C.

MAJOR GROUP 31 — MACHINERY INDUSTRIES (EXCEPT ELECTRICAL MACHINERY)

3111 Agricultural Implement Industry
3121 Commercial Refrigeration and Air Conditioning Equipment Industry
3191 Compressor, Pump and Industrial Fan Industry
3192 Construction & Mining Machinery & Materials Handling Equipment Industry
3193 Sawmill and Woodworking Machinery Industry
3194 Turbine and Mechanical Power Transmission Equipment Industry
3199 Other Machinery and Equipment Industries N.E.C.

MAJOR GROUP 32 — TRANSPORTATION EQUIPMENT INDUSTRIES

3211 Aircraft and Aircraft Parts Industry
3231 Motor Vehicle Industry
3241 Truck and Bus Body Industry
3242 Commercial Trailer Industry
3243 Non-Commercial Trailer Industry
3244 Mobile Home Industry
3251 Motor Vehicle Engine and Engine Parts Industry
3252 Motor Vehicle Wiring Assemblies Industry
3253 Motor Vehicle Stampings Industry
3254 Motor Vehicle Steering and Suspension Parts Industry
3255 Motor Vehicle Wheel and Brake Industry
3256 Plastic Parts and Accessories for Motor Vehicles Industry
3257 Motor Vehicle Fabric Accessories Industry
3259 Other Motor Vehicle Accessories, Parts and Assemblies Industries
3261 Railroad Rolling Stock Industry
3271 Shipbuilding and Repair Industry
3281 Boatbuilding and Repair Industry
3299 Other Transportation Equipment Industries

MAJOR GROUP 33 — ELECTRICAL AND ELECTRONIC PRODUCTS INDUSTRIES

3311 Small Electrical Appliance Industry
3321 Major Appliance Industry (Electric & Non-Electric)
3331 Lighting Fixture Industry
3332 Electric Lamp & Shade Industry (Except Bulb and Tube)
3333 Electric Lamp (Bulb and Tube) Industry
3341 Record Player, Radio and Television Receiver Industry
3351 Telecommunication Equipment Industry
3352 Electronic Parts and Components Industry
3359 Other Communication and Electronic Equipment Industries
3361 Electronic Computing and Peripheral Equipment Industry
3362 Electronic Office, Store and Business Machine Industry
3369 Other Office, Store and Business Machine Industries
3371 Electrical Transformer Industry
3372 Electrical Switchgear and Protective Equipment Industry
3379 Other Electrical Industrial Equipment Industries
3381 Communications and Energy Wire and Cable Industry
3391 Battery Industry
3392 Non-Current Carrying Wiring Devices Industry
3399 Other Electrical Products Industries N.E.C.

MAJOR GROUP 35 — NON-METALLIC MINERAL PRODUCTS INDUSTRIES

3511 Clay Products Industry (From Domestic Clay)
3512 Clay Products Industry (From Imported Clay)
3521 Hydraulic Cement Industry
3541 Concrete Pipe Industry
3542 Structural Concrete Products Industry
3549 Other Concrete Products Industry
3551 Ready-Mix Concrete Industry
3561 Primary Glass and Glass Containers Industry
3562 Glass Products Industry (Except Glass Containers)
3571 Abrasives Industry
3581 Lime Industry
3591 Refractories Industry
3592 Asbestos Products Industry
3593 Gypsum Products Industry
3594 Non-Metallic Mineral Insulating Materials Industry
3599 Other Non-Metallic Mineral Products Industries N.E.C.

MAJOR GROUP 36 — REFINED PETROLEUM AND COAL PRODUCTS INDUSTRIES

3611 Refined Petroleum Products Industry (Except Lubricating Oil and Grease)
3612 Lubricating Oil and Grease Industry
3699 Other Petroleum and Coal Products Industries

MAJOR GROUP 37 — CHEMICAL AND CHEMICAL PRODUCTS INDUSTRIES

3711 Industrial Inorganic Chemical Industries N.E.C.
3712 Industrial Organic Chemical Industries N.E.C.
3721 Chemical Fertilizer and Fertilizer Materials Industry
3722 Mixed Fertilizer Industry
3729 Other Agricultural Chemical Industries
3731 Plastic and Synthetic Resin Industry
3741 Pharmaceutical and Medicine Industry
3751 Paint and Varnish Industry
3761 Soap and Cleaning Compounds Industry
3771 Toilet Preparations Industry
3791 Printing Ink Industry
3792 Adhesives Industry
3799 Other Chemical Products Industries N.E.C.

MAJOR GROUP 39 — OTHER MANUFACTURING INDUSTRIES

3911 Indicating, Recording and Controlling Instruments Industry
3912 Other Instruments and Related Products Industry
3913 Clock and Watch Industry
3914 Ophthalmic Goods Industry
3921 Jewellery and Silverware Industry
3922 Precious Metal Secondary Refining Industry
3931 Sporting Goods Industry
3932 Toys and Games Industry
3971 Sign and Display Industry
3991 Broom, Brush and Mop Industry
3992 Button, Buckle and Clothes Fastener Industry
3993 Floor Tile, Linoleum and Coated Fabric Industry
3994 Musical Instrument and Sound Recording Industry
3999 Other Manufactured Products Industries N.E.C.

Source: Statistics Canada Cat. No. 12-501

APPENDIX G

SAMPLE POST-ACTIVITY DATA COLLECTION REPORTS

		FOR SUB-PROGRAMS
REPORT G-1	ACTIVITY SIGN-OFF REPORT	1.2, 1.3, 3.1
G-2	ACTIVITY SIGN-OFF REPORT	3.2
G-3	INTERIM ANNUAL REPORT FOR PROJECTS IN IMPLEMENTATION PHASE	1.2, 1.3 3.1
G-4	ANNUAL UPDATE - PROGRAM 1 ACTIVITIES	1.2, 1.3
G-5	ANNUAL UPDATE - SUB-PROGRAM 3.1 ACTIVITIES	3.1

REPORT G-1 POST ACTIVITY APPLICATION DATA SUMMARY

PROJECT 1.2 ( )
1.3 ( )
3.1 ( )

(To be returned by applicant with request for final payment)

FIRM/
ORGANIZATION _____

APPLICATION # _____

SUB-PROGRAMS OR
PROJECTS USED _____

_____

_____

_____

1. SUMMARIZE ACTUAL EXPENDITURES BY TYPE AND SOURCE

A. CAPITAL	AMOUNT (To nearest Thousand $)	SOURCE (%)			
		NB	ATLANTIC	CANADA	IMPORTED
Land	_____	_____	_____	_____	_____
Land Improvements	_____	_____	_____	_____	_____
Building & Structures	_____	_____	_____	_____	_____
Machinery & Equipment	_____	_____	_____	_____	_____
Other					
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

REPORT G-1

B. RESEARCH AND DEVELOPMENT	AMOUNT	SOURCE (%)			
		NB	ATLANTIC	CANADA	IMPORTED
Consultants/ Subcontractors	_____	_____	_____	_____	_____
Materials & Equipment	_____	_____	_____	_____	_____
Patents	_____	_____	_____	_____	_____

2. What was the actual source of funding used for the project?

IITD		$
Program or project number	_____	_____
	_____	_____
	_____	_____
	_____	_____
Other Sources		_____
Bank Loans		_____
Shareholder Loans		_____
Other Government Programs		
_____		_____
_____		_____
_____		_____
Other _____		_____
TOTAL		_____

REPORT G-1

3. Did the activity proceed as you had expected? If not, why not?

4. In order to allow us to make a calculation of the employment impact of this project, please provide the following:

Position Created	Full Time or Part-Time (%)	Month/Year Filled	Month/Year Terminated (if not full time)

5. <u>FOR PROJECT OFFICER ONLY</u>

Please comment on any implementation problems or issues.

REPORT G-2: **PROJECT SELF EVALUATION FOR RECIPIENT OF FUNDING UNDER PROGRAM 3.2**

FIRM NAME: _____

ADDRESS: _____

_____

1. What type of activity did you undertake?

   _____ technical audit
   _____ studies of new technology
   _____ missions or visits
   _____ seminars
   _____ demonstration project

2. What were your reasons for undertaking the project?

3. Did the project meet your expectations?

   _____ completely fulfilled my expectations
   _____ was very useful
   _____ was somewhat useful
   _____ was not at all useful

4. Did you plan to introduce new technology before undertaking this project?

5. Do you plan to introduce new technology now? If no, why not? If yes, will you be applying for assistance under the IITD Agreement?

6. Was the approval process responsive?

   _____ highly responsive - quick decision on my application
   _____ quite responsive - decision made in a reasonable time
   _____ slow response - decision seemed to require a long time

7. Did the application request adequate information?

   _____ No, I had to give additional information to the project officer.
   _____ Yes, my application was reviewed and approved without additional information being requested of me.

REPORT G-3 **INTERIM ANNUAL REPORT FOR PROJECTS IN IMPLEMENTATION PHASE**

PROJECT 1.2 ( )
1.3 ( )
3.1 ( )

(TO BE COMPLETED BY PROJECT OFFICER)

FIRM/
ORGANIZATION _____

APPLICATION # _____

SUB-PROGRAMS OR
PROJECTS USED _____

_____

_____

_____

1. SUMMARIZE ACTUAL EXPENDITURES BY TYPE AND SOURCE

A. CAPITAL	AMOUNT (To nearest Thousand $)	SOURCE (%)			
		NB	ATLANTIC	CANADA	IMPORTED
Land	_____	_____	_____	_____	_____
Land Improvements	_____	_____	_____	_____	_____
Building & Structures	_____	_____	_____	_____	_____
Machinery & Equipment	_____	_____	_____	_____	_____
Other					
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

B. RESEARCH AND DEVELOPMENT	AMOUNT	SOURCE (%)			
		NB	ATLANTIC	CANADA	IMPORTED
Consultants/ Subcontractors	_____	_____	_____	_____	_____
Materials & Equipment	_____	_____	_____	_____	_____
Patents	_____	_____	_____	_____	_____

2. What was the actual source of funding used for the project?

IITD		$
Program or project number	_____	_____
	_____	_____
	_____	_____
	_____	_____
Other Sources		_____
Bank Loans		_____
Shareholder Loans		_____
Other Government Programs		
_____		_____
_____		_____
_____		_____
Other _____		_____
TOTAL		_____

3. Did the activity proceed as you had expected? If not, why not?

4. For each new position created by this activity, please provide the following:

Position Created	Full Time or Part-Time (%)	Month/Year Filled	Month/Year Terminated (if not full time)

5. <u>FOR PROJECT OFFICER ONLY</u>

Please comment on any implementation problems or issues.

REPORT G-4 ANNUAL UPDATE - PROGRAM 1 ACTIVITIES

(TO BE COMPLETED BY PROJECT OFFICER)

Organization _____

Year of Approval _____

Application Number _____

Sub-Program(s) _____

Project Officer _____

1. List all changes in employment since last report

A) Deleted positions

Position (from last report)	Type of Change	Months of Employment	Person Years

B) New Positions

Positions	Full Time or Part Time (%)	Month /Year Filled	Month/Year Terminated (if not full time)	Person Years

2. Has any of the research been adopted or applied in other companies?

3. To your knowledge, has your activity resulted in new sales, products of employment?

Yes _____ No _____

If yes, please describe.

4. Have you undertaken other projects or efforts this year to encourage industry to use the results of your research?

Yes _____ No _____

Why or why not?

5. If a private sector business, please complete Report G-5 as well.

REPORT G-5 ANNUAL UPDATE SUB-PROGRAM 3.1 ACTIVITIES

(TO BE COMPLETED BY PROJECT OFFICER)

ANNUAL SURVEY

Name of Firm _____

Year of Approval _____

Application Number(s) _____

Project(s) _____

_____

_____

Date of Company Year End _____

Project Officer _____

PART 1 (FOR FIRMS USING ASSISTANCE TO DEVELOP NEW PRODUCTS/PROCESSES)

Sales of new products/ processes (units) _____ (Specific type of Units)

_____

_____

_____

_____

Total dollar value of sales this year of new product/processes

_____

PART 2 (FOR FIRMS USING IITD TO UPDATE TECHNOLOGY)

Has the new technology resulted in:

	Yes	No	Can't Say	If yes, what is the % Change
Increased sales	____	____	_____	_____
Reduced cost of sales	____	____	_____	_____
Improved ROI	____	____	_____	_____

PART 3

Is the activity proceeding as expected? If not, why not?

APPENDIX H

SAMPLE QUARTERLY REPORTS

REPORT	H-1	SUB-PROGRAM	1.1
	H-2	SUB-PROGRAM	1.2
	H-3	SUB-PROGRAM	1.3
	H-4	PROJECT	2.1.1
	H-5	PROJECT	2.1.2
	H-6	PROJECT	3.1.1
	H-7	PROJECT	3.1.2
	H-8	PROJECT	3.1.3
	H-9	PROJECT	3.1.4
	H-10	SUB-PROGRAM	3.2
	H-11	SUB-PROGRAM	3.3
	H-12	PROGRAM	4

QUARTER __ (1) __(2) __(3)___(4)

FISCAL YEAR _____

REPORT H-1
SUB-PROGRAM 1.1: OPPORTUNITY IDENTIFICATION AND PRIORIZATION

1. Describe activities undertaken since last report, by Task Group.

2. Estimated completion date of task group reports.

3. Describe any problems or concerns.

4. Recommendations to Management Committee for changes to sub-program.

5. Are any changes to the budget required for this sub-program?

QUARTER __(1) __(2) __(3) __(4)

FISCAL YEAR _____

REPORT H-2
SUB-PROGRAM: 1.2 PUBLIC SECTOR SPONSORED APPLIED RESEARCH AND DEVELOPMENT

1. Statistical Recap

	This Quarter	Same Quarter Last Year	Fiscal Year Total	IITD to Date
Applications Expected	_____	_____	_____	_____
Applications Received	_____	_____	_____	_____
Applications Pending Last Report	_____	_____	_____	_____
Applications Approved	_____	_____	_____	_____
Applications Rejected	_____	_____	_____	_____
Applications Pending	_____	_____	_____	_____
Jobs Created	_____	_____	_____	_____
Number of Activities Completed	_____	_____	_____	_____
Number of Successful Activities	_____	_____	_____	_____

	1986-87	87-88	88-89	89-90	90-91	91-92	92-93
Commitments x Year							
Budget x Year							

2. Comment on any significant variance from expected levels of activity.

3. Describe any proposed actions to be taken in relation to variances.

4. Recommendations for Management Committee.

5. Are any budget allocation changes required?

QUARTER __(1) __(2) __(3) __(4)

FISCAL YEAR _____

REPORT H-3
SUB-PROGRAM: 1.3 PUBLIC SECTOR SPONSORED APPLIED RESEARCH AND DEVELOPMENT

1. Statistical Recap

	This Quarter	Same Quarter Last Year	Fiscal Year Total	IITD to Date
Applications Expected	_____	____	_____	_____
Applications Received	_____	____	_____	_____
Applications Pending Last Report	_____	____	_____	_____
Applications Approved	_____	____	_____	_____
Applications Rejected	_____	____	_____	_____
Applications Pending	_____	____	_____	_____
Jobs Created	_____	_____	_____	_____
Number of Activities Completed	_____	_____	_____	_____
Number of Successful Activities	_____	_____	_____	_____

	1986-87	87-88	88-89	89-90	90-91	91-92	92-93
Commitments x Year							
Budget x Year							

2. Comment on any significant variance from expected levels of activity.

3. Describe any proposed actions to be taken in relation to variances.

4. Recommendations for Management Committee.

5. Are any budget allocation changes required?

QUARTER __(1) __(2) __(3) __(4)

FISCAL YEAR _____

REPORT H-4 PROJECT 2.1.1 TECHNOLOGY VENTURE INITIATIVE

1. Statistical Recap

	This Quarter	Same Quarter Last Year	Fiscal Year Total	IITD to Date
No. of New Clients				
No. of Services Provided				
Proposal Evaluations				
Business Plans				
Matches with Investors				
Seminars & Workshops - number - attendees				
Number of New Start-Ups				
Number of Products/ Processes which are new to the Province				

2. Describe any significant differences from the work plan

3. Describe corrective actions to be taken.

4. Recommendations to Management Committee.

5. Are any budget allocation changes needed?

QUARTER __(1) __(2) __(3) __(4)

FISCAL YEAR _____

REPORT H-5 PROJECT 2.1.2 TECHNOLOGY VENTURE INCUBATION FACILITY

1. Recap

Provide a summary of the businesses using the centre since the start of the project.

Business	Type of Product/ Process	No.of Jobs	Change In Sales	Status Relative to Business Plan*	Date Started	Date Terminated	Reason for Termination

(* A = Ahead; B = Behind; OT = On Target)

Capacity of Facility _____ Businesses

Present % of Capacity _____ %

No. of Businesses on Wait List _____

2. Explain any significant changes from the proposed business plan of the centre.

3. Recommendations for change to project.

QUARTER __(1) __(2) __(3) __ (4)

FISCAL YEAR _____

REPORT H-6
SUB-PROGRAM: 3.1.1 PROJECT DEVELOPMENT CAPITAL

1. Statistical Recap

	This Quarter	Same Quarter Last Year	Fiscal Year Total	IITD to Date
Applications Expected	_____	_____	_____	_____
Applications Received	_____	_____	_____	_____
Applications Pending Last Report	_____	_____	_____	_____
Applications Approved	_____	_____	_____	_____
Applications Rejected	_____	_____	_____	_____
Applications Pending	_____	_____	_____	_____
Jobs Created	_____	_____	_____	_____
Firms Created	_____	_____	_____	_____
Number products/ processes which are new to Province	_____	_____	_____	_____

	1986-87	87-88	88-89	89-90	90-01	91-92	92-93
Commitments x Year							
Budget x Year							

2. Comment on any significant variance from expected levels of activity.

3. Describe any proposed actions to be taken in relation to variances.

4. Recommendations for Management Committee.

5. Are any budget allocation changes required?

QUARTER __(1) __(2) __(3) __ (4)

FISCAL YEAR _____

REPORT H-7
SUB-PROGRAM: 3.1.2 DEMONSTRATION PROJECTS

1. Statistical Recap

	This Quarter	Same Quarter Last Year	Fiscal Year Total	IITD to Date
Applications Expected	_____	_____	_____	_____
Applications Received	_____	_____	_____	_____
Applications Pending Last Report	_____	_____	_____	_____
Applications Approved	_____	_____	_____	_____
Applications Rejected	_____	_____	_____	_____
Applications Pending	_____	_____	_____	_____
Jobs Created	_____	_____	_____	_____
Number of products/ processes which are new to Province	_____	_____	_____	_____

	1986-87	87-88	88-89	89-90	90-01	91-92	92-93
Commitments x Year							
Budget x Year							

2. Comment on any significant variance from expected levels of activity.

3. Describe any proposed actions to be taken in relation to variances.

4. Recommendations for Management Committee.

5. Are any budget allocation changes required?

QUARTER __(1) __(2) __(3) __ (4)

FISCAL YEAR _____

REPORT H-8
SUB-PROGRAM: 3.1.2 FIRST USER RISK REDUCTION

1. Statistical Recap

	This Quarter	Same Quarter Last Year	Fiscal Year Total	IITD to Date
Applications Expected	_____	_____	_____	_____
Applications Received	_____	_____	_____	_____
Applications Pending Last Report	_____	_____	_____	_____
Applications Approved	_____	_____	_____	_____
Applications Rejected	_____	_____	_____	_____
Applications Pending	_____	_____	_____	_____
Number products/ processes which are new to Province	_____	_____	_____	_____

	1986-87	87-88	88-89	89-90	90-01	91-92	92-93
Commitments x Year							
Budget x Year							

2. Comment on any significant variance from expected levels of activity.

3. Describe any proposed actions to be taken in relation to variances.

4. Recommendations for Management Committee.

5. Are any budget allocation changes required?

QUARTER __(1) __(2) __(3) __ (4)

FISCAL YEAR _____

REPORT H-9
SUB-PROGRAM: 3.1.4 RESEARCH & DEVELOPMENT INVESTMENT

1. Statistical Recap

	This Quarter	Same Quarter Last Year	Fiscal Year Total	IITD to Date
Applications Expected				
Applications Received				
Applications Pending Last Report				
Applications Approved				
Applications Rejected				
Applications Pending				
Jobs Created				
Firms Created				
Number products/ processes which are new to Province				
Number of Modernizations/ Expansions				

	1986-87	87-88	88-89	89-90	90-01	91-92	92-93
Commitments x Year							
Budget x Year							

2. Comment on any significant variance from expected levels of activity.

3. Describe any proposed actions to be taken in relation to variances.

4. Recommendations for Management Committee.

5. Are any budget allocation changes required?

QUARTER __(1) __(2) __(3) __ (4)

FISCAL YEAR _____

REPORT H-10
SUB-PROGRAM: 3.2 TECHNICAL AUDITS, ENTREPRENEURIAL VISITS AND STUDIES

1. Statistical Recap

	This Quarter	Same Quarter Last Year	Fiscal Year Total	IITD to Date
Applications Expected	_____	_____	_____	_____
Applications Received	_____	_____	_____	_____
Applications Pending Last Report	_____	_____	_____	_____
Applications Approved	_____	_____	_____	_____
Applications Rejected	_____	_____	_____	_____
Applications Pending	_____	_____	_____	_____

	1986-87	87-88	88-89	89-90	90-01	91-92	92-93
Commitments x Year							
Budget x Year							

2. Comment on any significant variance from expected levels of activity.

3. Describe any proposed actions to be taken in relation to variances.

4. Recommendations for Management Committee.

5. Are any budget allocation changes required?

QUARTER __(1) __(2) __(3) __(4)

FISCAL YEAR _____

REPORT H-11 SUB-PROGRAM 3.3 CONTRACT STAFF

1. Recap

1.1 Describe all changes to contract staff positions since last report.

Branch	Term	Role	Contract Value	Cost this Fiscal Year

1.2 Budget and commitments this fiscal year.

Budget _____

Commitment _____

2. Describe anticipated additions during next 6 months.

Department	Branch	Reason	Term

3. Describe any changes from approved budget.

4. Describe any problems, issues or concerns.

5. Recommendations for Management Committee.

6. Are any budget allocation changes required?

QUARTER __(1) __(2) __(3) __(4)

FISCAL YEAR _____

REPORT H-12 PROGRAM 4 PLANNING, COORDINATION AND ADMINISTRATION

1. Recap

1.1 Describe all projects approved during the last quarter.

Title	Amount	Status

1.2 Budget Status

	Administration	Planning and Feasibility Studies
Budget this year		
Commitments to date		
Projected expenditures this year		

2. Describe any variances to budget and corrective actions.

3. Describe any problems, issues or concerns.

4. Recommendations for Management Committee.

5. Are any budget allocation changes required?